XIX. *Journal of a Voyage to* The East Indies, *in the Ship* Grenville, (

Communicated by the

EXPLANATION OF THE COLUMNS.

1st, THE *date*[a].

2d, The *height* of the *thermometer*, according to FAHRENHEIT's scale. therm^om^eter belonged to Mr. RUSSELL, and hung in the open air in the balcony.

3d, including four columns, contains the *register* of the *marine barometers* which, as well as the thermometers, were made by NAIRNE and BLUNT: those R and D are quicksilver, of the kind usually made by them. That marked S is comp of quicksilver, and of a lighter fluid, for the purpose of making the alteratior visible, which is a very great convenience at sea; a quicksilver thermometer being it for the sake of correcting its height, the heat by which is set down in the marked Th. next to that marked S.

4th, The *weather* and *winds* in four lines; 1st line from noon to 6 P.M.; 2 6 P.M. to midnight; 3d, from midnight to 6 A.M.; 4th, from 6 A.M. to noon.

In the column of *weather*, f. denotes *fair*; sq. *squally*; c. *cloudy*; h. *hazy*; r. *ra hard rain*; sr. *small rain*; dr. r. *drizling rain*; sh. *showers*; th. *thunder*; l. *lightning*.

It is proper to remark, that the *winds* are set down according to the *compass*, with allowance for the *Variation*.

5th in 2, The *difference* between the daily alteration of *latitude* by *account* an *vation*; N. denoting that the *observation* was to the *Northward* of the *account*; S. was to the *Southward*[b].

(a) Here, for want of room, the day of the month only is expressed; but in the original journal the days of the of the Moon, are also inserted.

(b) Next to these columns in the original journal are the following, which are left out here only for want of room
Correct course, lee-way variation &c. allowed, and the different courses reduced to one straight course.
Distance on that straight course.
Difference of latitude by account,
Difference of latitude by observation,
The departure,
The difference of longitude by account,
The difference of longitude by the time-keeper,
} in minutes of a degree.

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ville, *Captain* Burnet Abercrombie, *in the Year* 1775. *By* Alexander Dalrymple, E
by the Honourable Henry Cavendish, *F. R. S.*

Read January 29, 1778.

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r. *rain*; hr.
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6th in 2, The *difference* between the daily alteration of *longitu* *time-keeper*; W. denoting that the *longitude* by the *time-keeper* w *account*; E. that it was to the *Eastward*.

The result of those differences indicates the daily effect of error in the course sailed, or distance run by log, would make the c from what it really was.

7th, The *longitude* from Greenwich, in seven columns.

1st, The longitude by *account*.

2d, The longitude by the *time-keeper*, which was made by his late improvements.

3d, The *difference* between the *longitudes* deduced from *obs* and from the *time-keeper uncorrected*; E. denoting the tir East of ☾; W. denoting time-keeper to West of ☾. This *keeper* not to be liable to any sudden changes in its rate c precision with which the observations of the Moon may b stances of weather and of the ship's motion considered.

4th, The *longitude* by *observations* of the *Moon's distance* fr adjusted, by the log, to the noon nearest the time of observ

5th, The number of *sights* or *distances observed*.

6th, The *object* whose *distance* from the *Moon* was *observed*; * the Star; S. Spica Virginis; R. Regulus; A. Aldebaran; F. Fomalhaut; An. Antares.

7th, The *extreme differences* between the *highest* and *lowest ob* minutes of a degree; when the *seconds* amount to *more* thar *above* is taken, *otherwise* the next minute *below*.

8th, The *latitude* in two columns:

1st, The latitude by *account*, carried on from the *land*, in th *longitude* by *account*.

ple, *Esq. F. R. S.*

longitude by the *account* and
per was to the *Westward* of

ct of current; however an
the current appear different

de by ARNOLD, but without

m *observations* of the *Moon*
the time-keeper to be to the
This, admitting the *time-*
rate of going, indicates the
may be relied on, all circum-
d.
nce from the *Sun* or *Stars*,
observation.

rved; ⊙ denoting the Sun;
aran; At. Atair; P. Pollux;

vest observation; expressed in
re than 30, the next minute

, in the same manner as the

2d,

2d, The latitude by *observation*; and where the *latitude* could not be had b *vation*, it is deduced by *account* from the *last observation*, in which ca included within [ ].

9th, The *correct longitude* from Greenwich deduced from the *time-keeper c* by the *sight* of *lands*, whereof the *longitudes* are known, and by *observations* of the taking a *mean* of the several observations of the *Moon* made within a short period other. The *error* of the *time-keeper*, between the *longitude corrected* by *sight of observations of* the *Moon*, is supposed to have arisen by the *time-keeper* having alt rate of going *uniformly* between these observations; and the *intermediate longitu* determined by the *time-keeper* on this supposition. Where no observations of t were made, it is deduced by the account from the *last* observation of the *tin* is then included within [ ].

10th, The *magnetical observations* of the *variation* and *dip*, in seven columns.

1st, 2d, } The variation by { azimuth, amplitude, } * *before*, denoting the observation to have b the *morning*; * *after*, denoting the observa have been in the *evening*. The *variation* was observed by the officers w *compasses* belonging to the ship.

3d, The *dip* with the *face* of the *instrument* to the East.

4th, Ditto, ditto, ditto, West.

5th, The *mean dip* of the foregoing observations.

6th, The *mean corrected*, or what is *supposed* to be the *true dip*.

7th, The *circumstances* under which the *observations* of the *dip* were made.

12th, The *miles* run by *log*.

The *dip* was observed with a *dipping-needle* belonging to the hon. Mr. CAVE made by SISSON.

The following *remarks* on the *dipping-needle* and *observations* are by Mr. CAVENI

The ends of the axis of the dipping-needle are made conical, and turn in conic of bell-metal, in the manner of Mr. LORIMER's needle, described in Phil. Trans. vo p. 79. The dip was constantly observed both with the face of the instrument to t and to the West, and the poles were changed twice during the voyage, in order whether the needle continued well balanced. The use of this method of obser explained in Phil. Trans. vol. LXVI. p. 396.

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CAVENDISH,

AVENDISH.
conical holes
ans. vol. LXV.
nt to the East
order to see
observing is

The mean dip corrected is what is supposed to be the *true dip.*
correction is as follows.

By the observations on July 12th, when the poles were chang
marked end of the needle was too heavy, so as to make that end
too low at that place; and therefore, if we suppose that the force of
strong in all parts of the earth, the error produced thereby in oth
$\frac{15}{16}$ths of a degree as the cosine of the dip to the radius. The observ
the poles were changed at Suez, agree well enough with this suppo
all the observations the marked end of the needle pointed to the N
all that part of the voyage subsequent to July 12th is corrected by s

$\frac{4}{8}$	of a degree from the mean dip, when the mean dip is between	63° and 52°	North, and a	
$\frac{5}{8}$		52 43		
$\frac{6}{8}$		43 30		the dip i
$\frac{7}{8}$		30 0		

But as before the needle left London, changing the poles was fou
difference in the dip, the correction in the preceding part of the v
great, *videlicet;*

$\frac{1}{8}$	of a degree is subtracted from the mean dip, when that dip is between	70°
$\frac{2}{8}$		62
$\frac{3}{8}$		52
$\frac{4}{8}$		43
$\frac{5}{8}$		35
$\frac{6}{8}$		30
$\frac{7}{8}$		25

The dip was observed on board the Grenville at Deptford, after h
part of the ship in which the observations were usually made, and
more than 5′ from that observed with the same needle in a pretty la
about five miles distant; so that the observations on board the Gre
much influenced by the iron-work of the ship.

MPLE.

ip. The foundation of this

changed, it appears, that the
t end point $\frac{15}{16}$ths of a degree
orce of magnetiſm is equally
in other places ſhould be to
obſervations alſo made when
ſuppoſition: therefore, as in
the North, the mean dip in
d by ſubtracting

and adding as much when
e dip is as much South.

as found to make very little
the voyage is made not ſo

	70° and	62°
	62	52
1	52	43
	43	35
	35	30
	30	25
	25	0

after her return, in the ſame
and was found not to differ
etty large garden in London,
ne Grenville ſeem to be not

A Journal

1775	Th.	Marine Barometer R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude fro A.	TK.
	°	In.Dec.	In.Dec	°	In.Dec.		′	′	′	′	°W′	°W′
Apr. 28						f. h. f. SE. ESE. S by E. E by S. ESE. SE.						
29						f.h. SE.V.WbS.WSW.SWbW.SW.WSW.V.C.V.WSW.						
30			30.2½	55		h. r. SW by S. WSW. W. h. WNW. NW by W. h. r. WNW. C. NNW. r. f. NNW. NW by N. NW.		6		7	6.19	6.12
May 1	59		30.4½	61		f. NW by N. NW by W. WNW. f. NW by W. NW. f. WNW. W by N. f. W. WSW. W by S.		11		14	6.40	6.19
2	57			56		h. fr. WSW. SW by W. hr. r. SW by S. SW. W by S. r. h. fr. W. WNW. h. r. f. h. NW by W. WNW. NW by W.		9	33		7.22	7.34
3	54¾		30.0⅓	54		c. NW by N. C. c. C. c. C. E. c. h. E. E by N.					7.29	
4	56½		30.0¾	56¼		h. ENE. h. ENE. h. c. ENE. V. c. NE. V. C.		31	9		7.57	8.18
5	57½		30.0	57½		h. C. W by S. c. h. W. WSW. SW. h. r. SW. WSW. h. fr. c. W by S. WSW. NE by N.		13		7	7.13	7.27
6	55¾		30.2	55½		h. N. NNE. h. NNE. NE. ENE. h. c. ENE. ESE. E by N. c. f. E by N. E by S.		19		12	8.36	8.38
7	57		30.2¼	56½		f. ESE. f. E. f. E. f. E. E by N. ENE.		21	4		10.13	10.19
8	61¼		30.2¾	60¾		h. NE by E. NNE. h. NNE. h. NNE. h. NNE. NE.		39	13		10.22	10.43

hip Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPLE.

itude from Greenwich						Latitude		Cor. Long.	Magnetical								
									Variation.		Dip						
											Face						
TK.	D. ☽ T.K.	☽	S.	O.	E D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.		ML.	N. I
°W′	′W	°W′			′	°N′	°N′	°W′	°W′	′W°	°	°	°	°			
							49.43				72.4	73.6	73.1	73.1			Between
							49.50	5.35			72.4	73.7	73.1	73.1			Lizard P
6.12						49.25	49.19	6.12			73.	74.	73.4	73.4	Great swell.	37	At 1 allo Nb N I and
6.19						48.42	48.25	6.19			72.	73.4	72.6	72.6		51	Light bre
7.34						48.51	48.43	7.34			72.4	73.	72.6	72.6	Great swell.	47	Major pa
						48.34	[48.26]	[7.41]			72.	72.4	72.2	72.2		18	Mostly ca
8.18						47.51	47.20	8.18			71.4	72.6	72.1	72.1	Very steady.	48	Light bre
7.27						46.56	46.12	7.27			71.	72.4	71.6	71.6	Great motion.	68	First p war war
8.38						45.58	44.55	8.38		18.42*	71.	72.	71.4	71.4	Good deal of motion.	83	Mostly li
10.19						44.14	42.50	10.19			69.6	71.	70.3	70.3	Very steady.	126	An increa
10.43	3 14	10.40 10.29	4 4	⊙	27 46	41.52	40. 9	10.43			68.4	69.2	68.7	68.6	Ditto.	142	First part,
																620	

N. B. Log-line 51 feet to 29″½.

Between Ram-head and the Lizard.

Lizard Point E½N=ENE½N. 7 or 8 leagues off shore.

At 1 P.M the Lizard Point bore by compass E½N. Variation allowed ENE½N 7 leagues. The Land's End N by E=NbyW. Take a departure from the Lizard in 49° 57′ 30″ N lat. Long. 5° 15′ W. First and middle part, lights airs and calm. Latter, pleasant breezes. Great swell from W.

Light breezes; great swell from Westward.

Major part light breezes; great swell from Westward.

Mostly calm. A very large swell from Westward.

Light breezes and a great swell.

First part, calm. Middle, an increasing breeze from Westward, with rain. Latter, a fine breeze from the Northward.

Mostly light breezes, with a swell from NW.

An increasing gale from the Eastward.

First part, fresh gales. Latter, moderate.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D. L. A. O. N	D. L. A. O. S	D. L. A. T. K. W	D. L. A. T. K. E	Longitude from A.	Longitude from T.K.
	°	In. Dec.	In. Dec.	°	In. Dec.		′	′	′	′	° ′	° ′
May 9	67		30.1¼	67		f. NNE. f. h. NNE. h. NNE. E by S. h. E by S. V.		11		13	W 10.34	W 10.42
10	68		30.0½	67¾		h. ENE. NE. V. h. V. N by E. h. N. V. h. V. SE by E. ESE. SE.		4	19		11.7	11.34
11						f. SE by S. C. f. C. ENE. E. f. h. E. NE by E. C. h. V. C.		10	9		11.28	12.4
12	67½		30.3¾	67½		h. NW by W. WNW. NW. h. c. NW by W. f. h. V. NW by W. h. NW by W. C. W by N. W.		16		4	11.52	12.24
13	66¼	30.1	30.0¾	66	30.1	f. W by S. WNW. f. h. WNW. NW by W. NW. h. NW. NW by N. c. NNE. N.		21	9		12.35	13.16
14	65	30.2½	30.2¼	65¼	30.2½	sq. h. NE by N. h. NNE. N. sq. c. N. c. N. NNE.		20		8	15.0	15.33
15	67¾		30.2	67½		h. NNE. f. c. NNE. NE by N. sq. c. NE by N. NE. W by N. c. WNW. C. W.		25	14		15.59	16.46
16	65½	30.1½	30.1½	65½	30.0½	c. W. c. W. V. NE by E. c. NE by E. E by N. h. E by N.	2			7	By acct from Madeira in [16.50] 16 56	16.41
17	67½		30.1¾	67¼		h. NE. h. c. NE by E. c. E by N. E by S. c. E by N. ESE.		18	2		17.3	16.50

e Ship Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMI

tude from Greenwich							Latitude		Cor. Long.	Magnetical									
										Variation		Dip							
												Face							
T.K.	D. ☾ T.K.	☾	S.	O.	E. D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.		ML.	
° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		620	
W	E	W				N	N	W	W	W							
10.42	13	10.55	3	⊙	36	40.17	38.24	10.42	18.0*	17.43*	67.6	69.	68.3	68.2	Very steady.	96	Decreasi
11.34						39.26	37.33	11.34	20 38*	18.36*	67.2	68.4	67.7	67.6	Good deal of motion.	55	Most sup a h
12.4						39. 3	37.0	12. 4	20. 9*	19 57*	66.6	67.6	67.2	67.1	Ship yawing.	29	Light lows noon Sout visib if sh
12.24						38.28	36. 9	12.24			65.6	67.2	66.4	66.3	Ditto, needle very steady.	41	Light vesse cruiz they
13.16						37.46	35. 6	13.16	20.17*	20.38*	66.	67.	66.4	66.3	Ditto, needle very unsteady, bad observation.	62	An in there throu
15.33						36.36	33.30	15.33	19.28*	19.16*	64.6	65.6	65.2	65.1	Very steady.	138	Fresh from
16.46						35.50	[32.24]	16.46			64.2	65.6	65.	64.7		84	In *F* SEA 10′ i ALC 1776 and 16th down and accou
16.41						31.18	31.20	16.41			63.2	64.6	64.	63.7		67	First p smoot
16.50						29 57	29.41	16.50			62.2	63.6	63.	62.7		81	These 24
																1273	

Decreasing breezes. Changed log-line 48 feet to 29″½.

Most part light airs. Several small land birds; two of them, supposed nightingales came on board, very tired; also saw a hawk.

Light airs of wind Easterly, with calms. Some swallows and other land birds, who seem very tired. In the afternoon, during the calm, when the ship's head was to the Southwestward, there was, for a little time, a counter current visible; it made like a wake on the ship's larboard beam, as if she was going broadside foremost.

Light airs of wind throughout. P.M. saw two three-mast vessels with latine sails; they were supposed to be Barbary cruizers, but did not come near enough to let us know what they were. Some swallows about the ship.

An increasing breeze from the Northward. In the morning there were many petrils in the ship's wake: they continued throughout the day.

Fresh breezes, with some squalls. At noon saw Porto Santo from the mast-head, W by S. per compass.

In *Funchal* road. Major SEARS informed us, that Mr. SEARL, in consequence of our request, tried the therm. for 10′ in a cool cellar, and found it 68°. N. B. Captain ALCOCK informed me, he observed the therm. on May 14, 1776, at 6 A.M. at *Funchal* 68°, and in the cellar 61°: and Mr. SEARL wrote to Mr. CAVENDISH, that on the 16th of May the therm. which stood at 69°, was carried down at 1 P.M. to a cellar, where it remained till 4 o'clock, and then was found to be at 62°, so that Major SEARS's account was probably erroneous.

First part, light airs. Middle and latter, pleasant breezes and smooth weather; several boats came off from *Funchal*.

These 24 hours pleasant breeze from Eastward.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D. L. A. O. N	D. L. A. O. S	D. L. T. K. W	D. L. T. K. E	Longitude fro A.	Longitude fro TK.
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′		° ′	° ′
May 18	69	30.2	30.1¾	68½	30.2	h. ENE. h. ENE. E. h. E. ENE. h. E. ENE.		15		10	W 17.9	W 16.46
19	68	30.2½	30.2¼	67¾	30.2¼	h. E by N. h. NE by N. h. c. N by W. C. N by W. NNE. c. f. NNE.		6	1		17.17	16.55
20	68	30.1¼	30.1½	68	30.1¼	c. NNE. NE. c. NE. N by E. NE by N. N by E. c. N by E. NNE. c. NNE.		24		3	17.42	17.17
21	68¼	30.1¼	30.1	68	30.1	f. c. NE by N. N by E. c. N by E. N by W. c. f. N by W. N by E. f. N by E. NNE.		1	4		18.18	17.57
22	70	30.1½	30.1¼	70¼	30.1½	f. N. f. c. N. NNE. c. NNE. c. NNE. NE by N. NE.		18			18.49	18.28
23	68	30.2	30.1¾	68	30.2	f. NE. NE by N. f. NE by N. f. NE by N. f. NE by N. NE.				1	19.28	19.6
24	68¼	30.1	30.0½	68¼	30.0¾	f. NE. NE by N. f. NE by N. f. c. NE by N. c. h. NE by N.		14	8		19.21	19.7
25	71¾	30.0	29.9½	72	29.9¼	h. N by E. h. N by E. h. N by E. h. NNE.		1	4		18.33	18.23
26	76½	30.0½	30.0	76½	30.0	h. NE by N. h. V. WNW. NW. h. NW. V. NNE. h. c. NNE. E by S. ESE.		8		2	18.37	18.25

hip Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPLE.

itude from Greenwich						Latitude		Cor. Long.	Magnetical									
									Variation.		Dip							
											Face							
TK.	D.☽ T.K.	☽	S.	☉	E D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.		ML.	T.S.
° ′ W	′ W	° ′ W			′	° ′ N	° ′ N	° ′ W	° ′ W	′ ° W	°	°	°	°		1273	
16.46						29. 4	28.33	16.46	*18.23		61.2	62.6	62.	61.6		53	Light rif S
16.55						27.53	27.16	16.55	16.53* *16.39	17. 6*	60.2	61.2	60.6	60.4		74	Pleasa Tene beari Easty by ti longi FEU on t farth feren tions
17.17						26.46	25.45	17.20	16.37* 15.42*	16.17* 15.42*	59.2	60.2	59.6	59.4	Very steady.	70	Light in th
17.57	57	18.54	4	⊙	29	25. 5	24. 3	18. 3		15 36*	58.2	59.2	58.6	58.4		106	Pleasa foun foun trills
18.28	66	19.34	3	⊙	28	23.43	22.25	18.37	15.13*	*15. 2	56.4	57.4	57.	56.6		87	Light N.B. time less rede
19.6	41 65	19 47 20.11	4 3	⊙ ⊙	47 71	21.54	[20.36]	19.18	14 35* *13. 9	*13. 7	54.	55.2	54.5	54.3		115	In th foun weat
19.7	79	20.26	3	⊙	37	19.21	17.49	19.22	13.56*	13.55*	51.	52.4	51.6	51.3	Much motion.	153	These water
18.23						17. 1	15.28	18.41	13.18*	12.32*	48.6	49.4	49.1	48.6	Very steady.	150	Fresh rema the r the w
18.25						16. 3	14.22	18.46			46.4	48.	47.2	46.7		59	Light Ther a ve a fa cover veral
																2140	

T.S. denotes the temperature of the sea-water taken up in a bucket about noon, and the thermometer immersed in this bucket for some minutes.

3

3 Light breezes and smooth water. At noon, Peak of Tenerif S 50° E.

4 Pleasant breezes from the Eastward. At noon, Peak of Tenerif (variation allowed) bore N 24° 30′ E, which bearing, and the difference of latitude places it 27′ to the Eastward of our situation at noon, when in 16° 55 long. by time-keeper, and consequently by time k. 16 28 is the longitude of Peak of Tenerif, only 4′ less than Pere FEUILLE makes it; but, by the observations of the Moon, on the 21st and following days, it appears, the ship was 1° farther West than the time-keeper represented, which difference arose since the 9th of May, if the Lunar observations were to be relied on.

0 Light breezes and smooth water throughout. Several petrills in the wake.

6 Pleasant trade. In Captain EKEBERG's chart there being soundings laid down not far to the Eastward of our situation, sounded at 8 P.M. but had no ground 40 fath. Several petrills in the wake of ship.

7 Light breezes with smooth water throughout. Many petrills. N.B. There was apparently an error in this day's long. by time-keeper. The succeeding days diff. long. was as much less as this day's was more than account. I have here corrected it as conformable to the Lunar observations. T.S. 69°.

5 In the evening, the water appeared of a muddy green, like soundings; but did not sound. An increasing trade with fair weather, the water continuing of same colour. T.S. 69°.

3 These 24 hours a fresh trade, and mostly fair weather, the water remaining the same as before. T.S. 68°½.

0 Fresh trade and hazy weather. In the afternoon the sea remarkably confused, breaking different ways. Sounded in the morning, but had no ground 40 fath. In the morning the water appeared blue again. T.S. 71°.

9 Light breezes chiefly. In the night, no ground 70 fath. There were many blubbers in the ship's wake, which made a very luminous appearance: they seemed in shape like a sausage about 8 or 9 inches long. In the day, sea was covered with Portugueze men of war, of which took up several; also some pilot-fish and skip-jacks. T.S. 74°.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D. L. A. O. N	D. L. A. O. S	D. L. A. T. K. W	D. L. A. T. K. E	Longitude from A.	Longitude from T.K.
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′ W	° ′ W
May 27	76¼	30.0¼	30.0	76	30.0	h. SE by E. h. c. V. E by N. c. h. E by N. V. h. V. NNW. NE.	7			4	18.18	18. 2
28	78½	30.0	30.0	78½	30.0	f. NNE. N. f. N. NW by N. f. h. NW by N. h. NW by N. WNW.	1			3	17.26	17. 7
29	80	30.1	30.1¼	80	30.1	h. W. h. C. SW. SW by W. h. SW by W. C. S. V. h. SW. SW by W. ESE. ENE.		2		8	17.16	16.49
30	77½	30.0¾	30.0¾	77	30.0¾	h. ENE. NE. V. W by S. h. SW by W. C. h. C. W. C. h. NW by N. NNW. N by W.	2			3	17. 9	16.39
31	80	30.0½	30.0	80	30.0	f. NNW. f. sq. hr. NW. NW by W. E. sq. hr. c. h. E. C. ENE. E by S. h. f. NE.	1		10		17. 4	16.44
June 1	82½	30.1	30.1	82½	30.1	f. NNE. N. NNW. f. SW by W. W. f. c. h. V. C. h. c. sq. h. NW. SE by E. SE.	10			10	16.51	16.11
2	82½	30.0¾	30.0¾	82½	30.0¾	h. SE. W. h. W. C. W. h. W. C. WNW. W by N h. W by N.	17				16.25	15.45
3	82¼	30.0¼	30.0½	81¾	30.0½	h. NW. L. to E. sq. r. c. NW. NW by N. E. V. c. L. to E. V. S by W. V. E by S. ESE. h. f. E by S. E. ESE.		8		6	16. 6	15.20
4	81¼	30.0½	30.0½	80½	30.0½	f. SE. SSE. SE by S. SSE. S by E. c. L. all round, sq. SSE. S by E. S by W. sq. SSW. C. sq. c. C. NNW.	10			10	16. 2	15. 6

Ship Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMP

ude from Greenwich						Latitude		Cor. Long.	Magnetical								
									Variation		Dip						
											Face						
T.K.	D. ☾ T.K.	☾	S.	O.	E. D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.		ML.	
° ′ W	′ E	° ′ W				° ′ N	° ′ N	° ′ W	° ′ W	° ′ W	°	°	°	°		2140	
18. 2						15.32	13.48	18.26			46.	46.4	46.2	45.7		46	Light the n some makir appea
17. 7						14.28	12.45	17.34		13. 0*	44 4	45.	44.6	44.3	Very steady.	82	Light Eastw in the 32 fa noon,
16.49						13.57	12.12	17.19	12.37*	12.44*	43 6	44.	43.7	43 4		37	First ar fish ab Sound 8 A.M ground
16.39						13.26	11.43	17.12		12.36*	42.6	43.4	43.1	42.6	Very steady.	32	Light midni lumin ing li birds. like th
16.44						12.22	10.40	17.20	12.24*	12.42*	41.6	42.4	42.1	41.5		69	Most hard lightn came like a very Sound 40 fat
16.11						11.40	10. 8	16.50	13. 7*	12.46*	41.	42.	41.4	41.	Very unsteady.	53	Major
15.45						11.14	9 59	16.26	12.35*	12.31*	40.4	41.2	40 7	40.3	Not very good observation.	39	First ar middl fath. fath.
15.20	35 62	15 55 16.22	3 3	⊙ ⊙	3 20	10.38	9.15	16.09	12.48*	12.55*	38.6	39.6	39.2	38.6	Very steady.	45	Major dozen to 35
15. 6						10.23	9.10	15.58			38.4	39.2	38.7	38 3		34	The fi The la the cl and a above, it. I noon,
																2577	

Light airs of wind, variable, with very damp weather. In the night, no ground 40 fath. Many fish about the ship; some under the quarter, darting through the water, and making streaks of light in various directions, had a fine appearance. T.S. 75°.

Light breezes throughout. In the night, lightning to the Eastward. Many luminous blubbers and fish about the ship in the night. Passed several turtle. Had ground at 11 A.M. 32 fath. coarse sand, with black specks and shells. At noon, 30 fath. coarse sand and flat coral. T.S. 75°½.

First and latter, light breezes. Middle, calm. Great many fish about the ship, and in the morning vast flocks of birds. Soundings, sand of various kinds from 28 to 17½ fath. at 8 A.M.; at 9 A.M. 21 fath. blue mud; and at 11 A.M. no ground 35 fath. T.S. 77°.

Light airs and calm. At 5 P.M. 56 fath. green mud. At midnight, 45 fath. blue mud. In the night, the water very luminous when put in motion, and many shoals of fish looking like breakers. A.M. a turtle passed; vast flocks of sea birds. At noon, the sea covered with Portuguese men of war, like the ground with leaves in Oct. 23 f. blue mud. T.S. 76°½.

Most part pleasant land and sea breezes. At midnight, a hard squall from the land: it was preceded by great deal of lightning over the land, and long threatning before the squall came off. It rose in a dark black cloud, with a white streak like a bow under it, and below this very dark. It came off very hard, and raised the spray of the sea in a foam. P.M. Soundings, 25 to 21 fath. sand. A.M. No ground 60 and 40 fath. T.S. 80°.

Major part, light breezes. P.M. No ground 40 to 80 fath.

First and latter parts, pleasant breezes from Westward. The middle, calm, with hot sultry weather. At midnight, 80 fath. coarse black sand, with bits of coral. At noon, 26 fath. coarse brown sand. T. S. 81°.

Major part, light airs. Many sharks about the ship; above a dozen in sight at once; caught one. P.M. Soundings 27 to 35 fath. At noon, no ground 88 fath. T.S. 80°½.

The first part, light breezes of wind from the Southward. The latter, mostly calm, with hot weather. In the evening, the clouds very remarkable; some appearing like dirty wool, and apparently very near all round the horizon; the sky above, in many places, a fine pink, and blueish grey beneath it. In the morning, many grampusses about the ship. At noon, ground 60 fath. T.S. 83°¼.

1755	Th.	Marine Barometer, R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude from A.	TK.
		In.Dec.	In.Dec.	°	In.Dec		′	′	′	′	° ′ W	° ′ W
June 5	80¾	30.0¾	30.0½	80¼	30.0½	h. c. C. W by S. c. L. all rd. r. W by S. WSW. V. NNW. r. h sq. and hr. sq. r. NNW. SE by E. E by S. V. h. V. S by E. SSE.	10			20	15.43	14.28
6	83	30.0¾	30.0¾	83	30.0¾	f. C. V. f. L. to Eastw. SW by W. h sq. r. L. all rd. r. c. E by S. SE. E. E by N. c. f. E by N. C. SSE. S by E.	11		8		15.41	14.34
7	82½	30.1½	30.1¼	82¼	30.1¼	h. SE by S. S by E. C. h. c. V. SSE. SE by S. c. sq. S by W. V. C. sq. c. C. S by E. SSE. S.	11		19		15.41	14.53
8	83	30.1¼	30.1¼	83	30.1¼	c. hr. and L. to s.w. S. C. V. SW. sq. c. sq. SW. SW by W. SW. c. C. c. f. C.	23			12	15.22	14.22
9	84	30.0½	30.0½	84	30.0½	h. C. h. L. to westw. C. h. c. C. W by S. c. W by S.		3		3	15.18	14.14
10	81¼	30.0½	30.0½	80¾	30.0	f. c. sq. r. W. NNE. sq. r. c. NNE. V. C. c. L. to Ed. hr. C. V. C. ENE. r. c. ENE. V. SW by W.	3		19		15.0	14.15
11	77¼	30.0½	30.0½	76½	30 0½	c. sq. r. SW. SW by S. c. f. c. sq. r. SW. sq. r. SSW. SW. WSW. hr. r. WSW. V.	30			24	14.19	
12	82	30.0¾	30.0¾	82	30.0¾	hr. V. SW. sr. r. c. SW. SW by S. SSW. c. r. SSW. C. V. c. C. V.					14.4	12.55
13	81½	30.0½	30.0½	81½	30.0½	c. WNW. NW. c. L. to westw. NW. c. NW. NW by N. c. th. L. to SW. V. NNE.				2	13.50	12.39

Ship Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPLE

ude from Greenwich						Latitude		Cor. Long.	Magnetical									
									Variation		Dip							
TK.	D. ☽ T.K.	☽	S.	C.	E. D.	A.	O.		Az.	Amp	Face E.	Face W.	MD.	C.D.		ML.	
° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		2577	
W	E	W				N.	N.	W	W	W							
14.28						9.43	8.40	15.43			38.2	38.4	38.3	37.7		48	Mostly l deal of board fr England A.M. f pool to no grou
14.34						9.12	8.20	15.53	*13.33		36.6	37.2	37.	36.4	Very steady.	38	Mostly l wind ca nute or thunder 82°.
14.53						8.56	8.15	16.16		12.28*	36.6	37.6	37.2	36.6		31	Light airs c
14.22						8.33	8.15	15.49			36.6	37.6	37.2	36.6	Very unsteady, great swell, and no sail.	30	First, lig calm, mast by a pretty the top fore-top
14.14						8.29	8. 8	15.46			36.4	37.6	37.1	36.5	Pretty steady.	6	Mostly c up main
14.15	53	15.8	5	*S	48	8. 1	7.43	15.51			35.6	36.6	36.2	35.6	Very steady.	35	First, fai ble, with
						7. 9	[7.14]	[14.53]			34.6	35.6	36.2	35.6	remarkably steady.	64	Cloudy ar Southw.
12.55	58	13.53	3	*S	39	6.53	7. 5	14.39			35.2	35.4	35.3	34.7	Very steady.	22	Calm and very lar the harp
12.39	115	14.34	3	*S	15	6.25	6.37	14.27	13.18*		32.4 32.6	33.4 32.6	32.6	32.1	Tightened the screws.	31	Light airs no groun
																2882	

Moſtly light breezes. Paſt 2 P.M. a hard ſquall, with great deal of thunder, lightning, and rain. P.M. a boat came on board from the Polly, a whaling veſſel, from Boſton in New England; the veſſel was hull down when they came aboard. A.M. ſpoke with the Mary, Captain JONES, from Liverpool to Sierra Leon. P.M. 40 to 36 fath. coarſe ſand. A.M. no ground 55 fath. T.S. 83°¼.

Moſtly light airs and calms. At midnight, a violent guſt of wind came off: its violence did not continue above a minute or two; but brought much rain, and was attended with thunder and lightning. A.M. no ground 88 fath. T.S. 82°.

Light airs chiefly: a long ſwell from the SW. T.S. 82°½.

Firſt, light airs. Middle, freſh breezes and ſqually. Latter, calm. At midnight, carried away the main and fore-top-maſt by the badneſs of the rigging. Had, for ſome hours, a pretty freſh SW wind; but not enough to have endangered the top-maſts had the rigging been good. At 11 got fore-top-maſt up. T.S. 83°.

Moſtly calm, with ſwell from Southward. At 9 A.M. got up main-top-maſt. T.S. 82°.

Firſt, fair. Middle, ſqually, with hard rain. Latter, variable, with calms. T.S. 81°½.

Cloudy and rainy, with a gentle breeze: great ſwell from Southw. T.S. 81°.

Calm and cloudy: great long ſwell from Southward. A.M. a very large ſhark was ſtruck with the harpon; but it broke the harpon, and got off. Many fiſh and birds. T.S. 82°.

Light airs and cloudy through. Many fiſh and birds. P.M. no ground 70 fath. A.M. hooked a ſhark. T.S. 81°½.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D. L. A. O. N	D. L. A. O. S	D. L. A. T. K. W	D. L. A. T. K. E	Longitude from A.	Longitude from T.K.
	°	In. Dec.	In. Dec.	°	In. Dec.		′	′	′	′	° ′ W	° ′ W
June 14	82¼	30.0¼	30.0¼	82¼	30.0	c. V. C. c. SW by S. SSW. c. SSW. SW. hr. c. r. c. C. V. S by E.	15		4		13.20	12.14
15	83	30.0¼	30.0¼	82¾	30.0	h. S by W. S. SSW. h. f. SSW. c. r. c. SSW. SW. V. c. T. to s.e. V. SW by W. SSW. SW.	15			7	12.39	11.26
16	82	30.0¼	30.0¼	82	30.0	c. fr. sq. r. SW. V. S by W. sq. L. to n.e. S by W. V. C. SW. SW by S. c. SW by S. C. c. r. c. V. C. V.	5				12.27	
17	79½	30.0¾	30.0¾	78½	30.0¾	sq. r. V. S by W. sq. r. c. V. SSW. c. r. c. SSW. S. SW. c. hr. c. SW by W. WSW. SW by W.	7		24		11.58	10.21
18	80½	30.0¾	30.0¾	80¼	30.0¾	c. SW by W. SW. C. W by N. sq. c. W by N. W by S. V. C. c. C. NE. c. NE. ENE.		7		5	11.44	10. 2
19	80½	30.0½	30.0½	80	30.0½	h. NNE. C. V. L. to nd. c. V. WSW. c. WSW. W by S. V. c. fr. c. V. C. SW by S.	5			1	11.29	9.46
20	82	30.0¾	30.0¾	81	30.0¾	c. SW by S. SSW. SW by S. c. L. sq. r. c. SW by S. SSW. SW by S. SW. SSW. c. SSW. V. S by W. c. r. S by E. C. SE by S. V.	16			5	10.52	9. 4
21	79	30.0½	30.0½	79	30.0½	c. S by E. S. SSW. c. L. from n. to s.e. sq. r. SSW. SW by S. SSE. S. r. hr. S. hr. c. r. S by E. C.					10.31	8.46
22	80¾	30.0¼	30.0¼	80½	30.0¼	hr. C. SSW. V. C. hr. C. ESE. V. hr. sq. hr. V. SSE. V. sq. r. V.	13		3	13	10.50	8.52

e Ship Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMP

tude from Greenwich						Latitude		Cor. Long.	Magnetical									
									Variation		Dip							
											Face							
T.K.	D. ☾ T.K.	☾	S.	O.	E. D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.		ML.	
° ′	° ′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		2882	
W	E	W				N	N	W	W	W							
12.14	120	14.14	3	*Au.	48	6. 5	6.32	14. 6		13.28*	32.6	33.6	33.2	32.5		37	In the from more the b with groov pearan
11.26						5.32	6.14	13.18		13.32*	32.	32.4	32.2	31.5		54	Light bre
						5.18	6. 5	[12.59]			31.6	32.	31.7	31.2		19	PM. ma sharks.
10.21						4.55	5.49	12.13			30.	30.6	30.3	29.6		43	First pa ter, li land t thick
10. 2						4.36	5.23	11.54			29.2	30.	29.5	28.7		24	Pleasant variabl
9.46						4.15	5. 7	11.38	13.30*	13.50*	28.6	29.6	29.2	28.4		26	Light ai the mo any sq
9. 4						3.49	4.57	10.56	14.23* *14.43	14.41*	28.6	29.6	29.2	28.4		46	Mostly error o allowa
8.46						3.45	[4.54]	10.38	14.40*		28.4	29.4	29.	28.2		44	First an heavy In the leagues rock o of the The N and th a hill, that of
8.52						3.19	4.39	10.44			27.6	28.4	28.1	27.3		35	At Su distanc Variab
																3210	

2

7 In the night, many fish. A.M. struck an albicore; it has from the back fin to the tail nine little yellow fins, and nine more such from the belly fin to the tail. Besides the fin on the back, it has another fin, composed of a thin membrane, with sharp prickly ribs; this fin it can strike, having a groove to receive it, so that there remains no projection or appearance of it. Light airs. No ground 65 to 70 fath. T.S. 81°¼

Light breezes, with a swell from the Southward. T.S. 82°.

PM. many fish; but swimming very deep. A.M. caught three sharks. Most part light airs and calm with rain. T.S. 81°½

First part, squally, with rain and wind Southerly. The latter, light airs S.W. cloudy and rain. A.M. appearance of land to Eastward under the clouds, but very obscure, being thick and hazy weather. T.S. 81°.

Pleasant weather. A.M. some dolphins. Light airs of wind, variable with calms. T.S. 81°½.

Light airs, with lightning and some thunder in the night. In the morning, it looked very black, but was not attended with any squall. T.S. 81°.

Mostly light breezes and cloudy, with rain. I ascribe the error of this day's log partly to the course having made no allowance for lee-way. T.S. 82°.

First and middle parts, light breezes, with some squalls, and heavy rain. The latter, calm, with cloudy weather and rain. In the morning, at 8 P.M. saw the land, bearing E by S 7 leagues. Sounded 46 fath. mud; but there was the mark of rock on the arming of the lead. At 10 A.M. the extremes of the land from N by E½E to E distance about 7 leagues. The N extreme I suppose is *Punta Baixas* near *Sestos* river, and the Southern extreme supposed about *Botna*: There was a hill, visible inland, to the left, which was supposed to be that of *Baffa*. T.S. 81°.

At Sun-set, the extremes N¾E to E¾S (per compass) distance off shore about 6 leagues. 43 fath. blue mud. Variable winds, with very much hard rain. T.S. 81°.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D.L. A.O. N	D.L. A.O. S	D.L. A.T.K. W	D.L. A.T.K. E	Longitude from A.	Longitude from TK.
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′ W	° ′ W
June 23	82	30.0	29.9¾	81¾	30.0	r. c. SSE. S. S by W. c. sq. S by W. S. S by E. r. c. S by E. SSE. c. h. S. S by W. S.	12		1		11.13	9.16
24	80½	30.0	29.9¾	80	29.9¾	h. sq. r. S. S by W. SSW. sq. r. c. S by W. c. sq. c. S by W. c. sq. r. S by W. S.	3		3		11.42	9.48
25	77¼	30.0½	30.0½	76½	30.0	h. c. S. S by W. SSW. c. SSW. c. SSW. c. r. SSW. V. C. W by S.					11.16	
26	80	30.0½	30.0¼	80½	30.0½	hr. c. sq. V. SSW. sq. r. SW by S. r. SW by S. S by W. SSW. r. c. S by W.	21			52	10. 2	7.40
27	80¼	30.0½	30.0½	80¼	30.0½	c. sq. SSW. SW by S. SSW. c. sq. SSW. S by W. sq. c. S by W. S. c. S. S by W. S.		24		44	10. 6	7. 0
28	80½	30.0¾	30.0¾	80¼	30.0¾	h. S. S by E. h. sq. f. c. S by E. sq. c. S. c. f. S. S by E.		13		2	11.10	8. 2
29	79½	30.1	30.1	79	30.1	c. S. S by E. S. c. S by E. c. f. S by E. S. f. S by E.		20	39		12.18	9.48
30	78½	30.2	30.1½	78½	30.1	f. S by E. f. c. S by E. c. f. S by E. f. S by E. S.	1		77		13.21	12.8
July 1	77½	30.1½	30.1½	76¾	30.1	c. S. c. S. c. S by E. S. c. f. S. S by E. S.	21		76		12.35	12.38
2	78½	30.1¼	30.1	78	30.1	h. S by E. S. S by E. h. c. S by E. SSE. S by E. c. S. c. S. S by E. S.	14		62		13.33	14.38

Ship Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPLE

ude from Greenwich						Latitude		Cor. Long.	Magnetical								
									Variation.		Dip						
											Face						
TK.	D. ☽ T.K.	☽	S.	O.	E. D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.		ML.	
° ′ W	′	° ′ W			′	° ′ N	° ′ N	° ′ W	° ′ W	′ ° W	°	°	°	°		3210	
9.16						3. 0	4.32	11 6			28.	28.4	28.2	27.4	Very unsteady.	54	Moderate
9.48						2.53	4.28	11.37			28.4	29.4	29.	28.2		73	Most pa T.S. 8
						2.35	[4.21]	[11.11]			27.4	27.6	27.5	26.7	Pretty steady.	58	Most p surgeo jolly b find hi one gl 50 fath
7.40						2.23	4.16	9.26			26.4	27.4	27.	26.2		58	A fresh bre
7. 0						2.13	3.42	8.45			25.4	26.	25.6	25.		73	Mostly makin suppos spoke T.S. 8
8. 2						1.34	2.50	9.45	14.42* *14.11		24.4	25.2	24.7	24.		76	Fresh b T.S. 8
9.48						1. 0	1.56	11.29	14.37* *13.44	14.25*	23.6	24.4	24.1	23.2	Very unsteady.	79	Fresh bree
12.8						0.14	1.11	13.48	13. 6* *12. 7		23.6	24.4	24.1	23.2	Pretty steady.	78	Fresh b Some man of
12.38						0.16	1.34	14.17	13.17*		24.6	24.4	24.5	23.6		66	Major part
14.38						S 0.22	1.10	16.16	12.41*	12.47*	24.6	25.4	25.1	24.2	N.B. going to *Westward* encreases dip.	70	Pleasant br
																3895	

Moderate breezes. T.S. 81°.

Moſt part a freſh gale from Southward, with ſqualls and rain. T.S. 81°.

Moſt part freſh breezes. At 8 P.M. Richard Jones, the ſurgeon's lad, fell over-board. Hove the ſhip to, and ſent jolly boat and yawl in ſearch of him; but they could not find him. No obſervation for latitude or time, not having one glimpſe of the Sun all the forenoon. P.M. no ground 50 fath. T.S. 80°½.

A freſh breeze with much rain. P.M. no ground 70 fath. T.S. 80°½.

Moſtly freſh breezes. At 2 P.M. from maſt-head *land*, making like iſlands, was ſeen bearing E by N=ENE½N, ſuppoſed Cape Palmas. P.M. no ground 70 fath. At 8 P.M. ſpoke with a French ſhip from *Havre* to the coaſt of *Angola*. T.S. 80°.

Freſh breeze throughout, and a large Southerly ſwell. T.S. 80°¼.

Freſh breeze throughout. P.M. cloudy. A.M. fair. T.S. 79°½.

Freſh breezes with fair weather. P.M. many porpoiſes. Some bottle noſes, and vaſt flocks of flying fiſh. A.M. a man of war bird. T.S. 76°¾.

Major part moderate and cloudy. T.S. 78°.

Pleaſant breeze, with fair weather and ſmooth water. T.S. 76°.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.		D.L. A.O. N	D.L. A.O. S	D.L. A. T.K. W	D.L. A. T.K. E	Longitude from C A.	Longitude from C T.K.	D. T.
	°	In.Dec.	In.Dec.	°	In.Dec.			′	′	′	′	° ′ W	° ′ W	E
July 3	79	30.0¾	30.0¾	79	30.0½	h.	S. S by E. S.							
						h.	S by E. SSE. S by E. S. S by E.							
						h. sq. c.	S by E.		3	35		14.56	16.36	
						c.	S by E. SSE. S by E. SSE.							
4	77½	30.1	30.0¼	77	30.0½	h.	SSE. SE by S. SE. SE by S.							
						h.	SE by S. SE.							
						h. f. c.	SE by S.		14	30		15.44	17.55	
						c. f.	SE.							
5	78½	30.1¼	30.1¼	78½	30.1	h.	SE. SE by E. ESE.							
						h. f.	ESE.							
						f. c. f.	ESE. SE by E.	2		15		16. 4	18.30	9
						f.	SE by S. SE.							
6	79¾	30.1	30.0¾	79¾	30.0½	f.	SE by E. SE.							
						f. c.	SE by E. SE.							
						c. sq. r. c.	SE. SE by E. SE by S.	12		29		16.49	19.44	
						c. sq. r.	SE by S.							
7	80	30.0½	30.0¾	80	30.0½	c.	SE. SE by S. SE.							
						c. f.	SE. SE by E. SE.							
						f. c.	SE by E.		14	8		17.39	20.42	
						c. sq.	SE by E.							
8	79½	30.0½	30.0½	79¼	30.0½	sq. r. sq.	SE by E. SE.							
						sq. c.	SE.							
						c.	SE.		14		5	18.42	21.40	
						c. sq. r. h. f.	SE. SE by E.							
9	79½	30.1½	30.1¼	79½	30.1½	f. sq.	ESE. SE by E. SE.							
						sq. f.	SE.							
						sq. c.	SE. SE by E.		3		14	19.45	22.29	
						c.	SE by E. SE.							
10	77½	30.1½	30.1¼	77½	30.1½	f.	SE. SE by E.							
						f. sq.	SE by E.							
						c. sq.	SE. SE by E.		5		21	20.37	23. 0	
						sq.	SE by E. ESE. SE.							
11	77	30.2¾	30.2½	76¾	30.2½	h. sq. r. c.	SE. SE by E.							
						c. sq.	SE. SE by E. SE.							
						sq. c.	SE. SE by E.				8	21.42	23.57	
						c. f.	SE by E. SE.							
12	76½	30.3	30.2⅚	76½	30.2¼	h.	SE.							
						h. f.	SE. SE by E.							
						f. c.	SE by E.		1		4	22.29	24.40	
						c. sq.	SE. SE by E.							

Ship Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPL

le from Greenwich						Latitude		Cor. Long.	Magnetical								
									Variation		North Dip						
											Face						
T.K.	D. ☾ T.K.	☾	S.	O.	E. D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.		ML.	
° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		3895	
W	E	W				S	N	W	W	W							
6.36						1. 6	0.17	18.13	11.37*		24.2	24.6	24.4	23.5		97	Fresh breeze
7.55						2.13	S 1. 8	19.29	10.31* *9. 0	*8.40	22.2	22.6	22.4	21.5	Very steady.	86	Pleasant trad
8.30	93	20. 3	4	⊙	26	3.28	2.21	20. 3	8.59* *8.32	8.59*	19.6	20.6	20.2	19.3	Extremely steady.	80	Night, sea breezes, v
9.44						4.56	3.37	21.20	8.37*	8.54*	19.2	20.2	19.6	18.7	Great swell.	99	A.M. grea very close rain. P.
0.42						6.22	5.17	22.20	7.52*	7.49*	15.4	16.2	15.7	15.	Very great swell.	101	Great swell cloudy.
1.40						8. 1	7.10	23.20	*6.26	*6.33	11.	12.6	11.7	11.	Pretty steady, though great swell; touched the screws, and found the same.	118	Ditto. Ditto
2.29						9.45	8.57	24.11			7.2	8.4	7.7	7.	Pretty steady.	121	Ditto. Fresh
3. 0						11.33	10.50	24.44	5.44*	5.32*	3.6	5.0	4.3	3.4	Ditto, but great swell.	120	Ditto. Saw T.S. 77?.
3.57						13. 7	12.24	25.43	*4. 0		2.2	2.4	2.3	1.4	Not steady.	114	Major part swell. P. Towards r
											South Dip.						
4.40						14.48	14. 6	26.28	4.15*	4.20*	1.4	1.2	1.3	2.2	Pretty steady.	111 4942	Pleasant tr bird, supp man of w

:esh breeze throughout. T.S. 76°.

easant trade wind, with a Southerly swell. T.S. 76°½.

Night, sea luminous supposed blubber. Major part, pleasant breezes, with a swell from SE. T.S. 76°½.

A.M. great swell. In the forenoon, hard rain, small drops, but very close. First part, fresh trade; latter, squally and some rain. T.S. 77°½.

Great swell. The barometers very unsteady. Fresh gales and cloudy. T.S. 78°½.

:to. Ditto Strong gales and squally. T.S. 78°.

:to. Fresh gales throughout. T S. 78°.

Ditto. Saw a petrel. Fresh gales from SE. with a large swell. T.S. 77°.

Major part fresh gales and squally, with a great confused swell. P.M. a weather gall. A.M. Swell much abated. Towards noon, moderate and fair. T.S. 75°.

Pleasant trade wind. Swell very much abated. A.M. saw a bird, supposed to be a sheerwater. Mr. ROBERTS saw a man of war bird. T.S. 75°½.

1775	Th.	Marine Barometer, R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude from A.	TK.
		In.Dec.	In.Dec.	°	In.Dec		′	′	′	′	° ′	° ′
											W	W
July 13	76	30.2¾	30.2½	76	30.2½	h. ſq. r. SE by E. SE by S. SE by E. ſq. r. c. E by S. SE. c. SE. SE by S. SSE. c. SE by S. S by E. SSE.	2		6		23.30	25.47
14	76	30.3¼	30.3	76	30.2½	f. ſq. SE by S. SE. ſq. f. SE by E. SE by S. c. ſq. c. SE by S. SE. c. f. SE. SE by E. SE.	3		9		24.27	26.53
15	76¼	30.2½	30.2½	76½	30.2¼	f. c. ſq. SE. SE by S. SE. c. r. c. ſq. r. SE by E. SE by S. SSE. V. ſq. r. c. SE. c. h. SE by E.				1	25.20	27.45
16	74½	30.3½	30.3	74½	30.2¾	c. SE. SE by E. c. SE by E. ESE. c. E by S. SE by E. E by S. SE by E. c. SE. ESE.		1	1		25.42	28. 8
17	73	30.4	30.3¼	73	30 3½	c. SE by E. V. SSE. V. ESE. c. ſr. ſq. SE by E. V. SE. ſq. ſr. SE by E. V. ſq. ſr. c. ſq. SE. E by S. ESE.	2		5		26. 2	28.33
18	75½	30.4	30.3½	75½	30.3½	f. SE by E. SE. f. c. SE by E. c. SE by E. SE. c. f. SE. E by S. ESE. E by S.		8	4		26.29	29. 4
19	73½	30.4	30.3	73½	30.3	c. ſq. c. ENE. ſr. ſq. V. ESE. r. ſq. r. f. ſq. r. V. C. NE. V. ſq. r. c. f. C. N. V. N.					26.12	28.47

Ship Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPLE

tude from Greenwich						Latitude		Cor. Long.	Magnetical									
									Variation		Dip							
											Face							
TK.	D. ☽ T.K.	☽	S.	O.	E. D.	A.	O.		Az.	Amp.	E.	W	MD.	C.D.		ML.	
° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		4942	
W	E	W				S.	S.	W	W	W							
25.47						16.17	15.33	27.37	*2.43	*2.42	3.4	3.4	3.4	3 4		111	First pa fair. perfect fore fa Change rious t Ch Re Di Di
26.53						17.46	16.59	28.45	1.48* *1.45	1.36* *1.49	5.2	5.4	5.3	6.2	Not very steady.	104	Constant tr
27.45						18.58	18.11	29.39	*1.21		7.4	8.	7.6	8.5		88	First part,
28. 8						19.47	19. 1	30. 4	0.42*		9.2	9.6	9.4	10.3	Pretty steady.	54	A.M fa called. abated.
28.33	105	30.18	3	*At.	31	20.47	19.59	30 31			11.	11.2	11.1	12.		69	P.M. to curved nidada noon, breezes water. to lye i Its longi Mean di and 1 Long. 8 By Dr. T.S
29. 4	138 120	31.22 31. 4	3 3	⊙ ⊙	11 23	22. 9	21.29	31.15	E 0.20*	E 0.13*	13.	13.	13.	13.7	Very unsteady.	87	At Sun-set,
28.47	145	31.12	3	⊙	15	22.48	22. 8	30 59		0.44*	14.4	14.4	14.4	15.3	Pretty steady.	47	Mostly ligh
																5502	

First part, fresh gales and squally. Latter, moderate and fair. A.M. Fog Bank exactly like an island, the outline perfectly well defined, except the extremities: I never before saw any cloud so like land. T.S. 74°.
Changed the poles of the dipping-needle. Mean of the various trials changed and re-changed 3½ S. viz.

	E.	W.	MD.
Changed the poles, marked end down,	4.4	4.	4.2
Re-changed, ditto up,	2.6	3.	2.7
Ditto, ditto down,	4.4	4.6	4.5
Ditto, ditto up,	2.4	2.4	2.4
Mean	3.4	3.4	3.4

Constant trade wind. T.S. 74°.

First part, moderate. Middle, hard squalls and rain. T.S. 74°½.

A.M saw a bird like a booby, but shorter winged and necked, called by sailors, poor John. Light breezes, swell much abated. T.S. 74°.

P.M. to the NE. the clouds very remarkable, being in white curved rays, like the variation chart. At 7 A.M. saw Trinidada from mast-head SSE. At 9 visible from deck. At noon, Trinidada S 36° E 11 leagues. Major part, moderate breezes and cloudy weather; winds variable and smooth water. By the bearings of Trinidada at noon, allowing it to lye in 20° 27′ S according to Dr. HALLEY.

Its longitude per T. K.	28.13 W		28.13
Mean diff. T.K. and ☽ 8 obs. ☉ and 1 ✳	1.58	8 obs. ☉	2.12
Long. 8 obs. ☉ and ☽ 1 obs. ✳ At.	30.11	8 obs. ☉ & ☽	30.25
By Dr. HALLEY,	29.50		29.50
Diff.	0.21		0.35

T.S. 74°.

At Sun-set, Trinidada E by S ½ S 8 or 9 leagues. T.S 76°.

Mostly light breezes and cloudy. T.S. 74°.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D L A.O. N	D L A.O. S	D. L. A. T.K. W	D. L. A. T.K. E	Longitude from A.	Longitude from T.K.
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′ W	° ′ W
July 20	75	30.4	30.3½	74½	30.3	f. C. f. C. NE. f. c. f. C. V. f. E. ENE.		3	5		26. 8	28.48
21	73	30.4	30.3¾	73¼	30.3¼	f. C. ENE. f. c. ENE. E by N. c. h. E by N. ENE. h. c. ENE. NE.		4			25.35	28.15
22	74¼	30.5	30 4½	74	30.4¼	f. NE. f. h. fq. fr. NE. V. c. f. V. NE by E. V. f. V. ENE.		2		8	24.49	27.21
23	74	30.6	30.5½	74	30.5	f. E. E by S. f. E. E by N. E. f. E by S. V. f. SE by E.		7	8		24.55	27.35
24	71¼	30.6	30.5½	71½	30.5	f. SE by E. SE. f. SE by E. ESE. f. c. ESE. c. ESE. SE by E.	2		14		25.20	28.12
25	72½	30.6	30.5½	73	30.5	c. ESE. SE. SE by E. c. SE by E. c. h. ESE. SE by E. h. V. SE.		2		3	25.49	28.38
26	71	30.6	30.5½	71½	30.5	c. E by S. SE by E. SE. c. fq. with fr. V. SE by E. fq. with fr. h. SE by E. V. h. f. SE. SE by E. V.		4	6		26.23	29.18
27	70¼	30.6	30.5½	70¼	30.5	f. ESE. SE. f. SE. SE by E. ESE. V. f. V. ESE. f. E. E by S.		6		4	26.36	29.27
28	68	30.5½	30.4¾	68¼	30.4½	f. V. f. C. f. c. C. NE by E. C. c. f. WNW. W by S.		6	9		26.18	29. 0
29	66¼	30.4¼	30 3½	66¾	30.3¼	h. W by S. V. c. V. NW. c. NW. V. c. f. with [illegible] V. WNW. NW by W.		6	3		25.21	27.50

Ship Grenville, *Capt.* BURNET ABERCROMBIE, *kept by* ALEXANDER DALRYMPLE, 17

ude from Greenwich						Latitude		Cor. Long.	Magnetical									
									Variation		South Dip							
											Face							
T.K.	D. ☾ T.K.	☾	S.	O.	E. D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.		ML.	
° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		5502	
W	E	W				S	S	W	E	E							
28.48	137	31. 5	3	⊙	12	22.57	22.20	31. 0		*0.44	14.6	15.	14.7	15.6	Not very ſteady.	10	Moſtly cal
28.15	115 128	30.10 30.23	3 4	⊙ ⊙	29 16	24. 7	23 34	30.27	*0.42	0.55* *1. 5	17.4	18.	17.6	18.5	Extremely unſteady, the ſhip having an irregular motion, tho' ſmooth water.	76	Major part
27.21	174 94	30.15 28.55	5 3	⊙ ⊙	22 18	25.10	24.39	29.33	0.11* W *0.15	0.17* W *0.22	19.4	20.4	20.	20.7	Very ſteady.	76	Pleaſant br
27.35	147 135 140	30. 2 29.50 29.55	3 3 3	⊙ ⊙ ⊙	24 16 20	26.12	25.48	29.47	E 0. 6*	E 0.11*	21.	21.6	21.3	22.2	Extremely ſteady, though long ſwell.	65	Pleaſant br
28.12						27.44	27.18	30.24	1. 0* *1.13	1.10*	23 4	24.	23.6	24.5		96	Pleaſant T.S. 69°
28.38						28.54	28.30	30.50	2.12* *1.52	2.16* *1.27	26.	27.	26.4	27.3		76	Light br was a a-ſtern.
29.18						29.55	29.35	31.29		1.52*	27.2	28.	27.5	28.4	Very ſteady.	69	Winds moſt
29.27						30.36	30.22	31.37	*3. 0	*3.14	27.6	28.6	28.2	29.1		43	Light airs.
29. 0						30.45	30 37	31. 8	2.45*	2.16*	27.6	28.6	28.2	29.1		18	Moſtly calm
27.50						31. 5	31.33	30. 2	*2.10		29.	30.	29 4	30.3	Very unſteady.	53	Major part
																6084	

Moſtly calm throughout, with ſmooth water. T.S. 74°½.

Major part light breezes, with ſmooth water. T.S. 72°.

Pleaſant breeze and ſmooth water. T.S. 72°.

Pleaſant breezes; a long ſwell. T.S. 70°.

Pleaſant breeze. At 10 A.M. ſaw a ſail bearing S by W. T.S. 69°.

Light breezes throughout. Paſſed by the ſail at midnight; it was a ſmall two-maſt veſſel. At 6 A.M. ſaw the veſſel a-ſtern. T.S. 69°½.

Winds moſtly variable. T.S. 67°¼.

Light airs. T.S. 63°.

Moſtly calm. T.S. 66°.

Major part light breezes. T.S. 67°½.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.		D.L. A.O. N	D.L. A.O. S	D.L. A. T.K. W	D.L. A. T.K. E	Longitude from A.	Longitude from TK.
	°	In.Dec.	In.Dec.	°	In.Dec.			′	′	′	′	° ′ W	° ′ W
July 30	65¼	30.2¼	30.1¾	65¼	30.1½	c. sq, r. c. sq. r. sq, r. c. c. c. sq.	NW by W. NW by W. NW by N. NW by N. NW by N.		7		5	22.36	25. 6
31	62		29.8	62		f. c. sq. r. sq, r. sq. r. hsq. hsq, r. sq, hr. hsq.	NW by N. NW by N. NWbyN. NNW. NbyW. N.	5		26		19.14	
Aug. 1	61¼		29.8½	61¼		sq, r, L. sq, r, L. sq, r. sq. c. c.	NNW. NNW. NNW. NW. WNW. WNW. W by N.					16.28	19.24
2	58½	29.9	29.8¼	58½	29.8½	h. h. c. sq, r. L. sq. c.	W. W. V. W by S. W by S. WSW. WSW. V. W by S.	2			16	14.53	17.33
3	55½	29.3	29.2½	55½	29.2¼	c. sq, r. L. to e.n.e. h. sq. sq. L, r. c. L, r. c. L, r. sr.	SW. V. W. NE by N. ENE. V. NEbyE. N. WNW. V. W.		1		5	13.56	16.29
4	54¾		29.8	54¾		sq. c. r. sq, r. hard gales. ditto.	W by N. V. W by S. V. S by E. S by E. S by E. SSW.	2		12		11.45	14.30
5	51¾		30.0½	50¾		h. sq, r. sq, r. sq, hail. sq, hail. sq, r. hail. sq. sq. sq, hail. hsq, hail.	SSW. SW by S. SW by S. V. SSW. S by W.	11			35	9.24	11.34
6	53		30.2¾	52		sq, r. sq, hail. sq, r. hail. sq, r. c. c. sq. sq, r. sq, r. sq. sr.	SSW. S by W. S by W. S. S. S. S by E.	14			2	7.19	9.27
7	56¾		30.0½	56		c. c. f. h. h. c. sq, r. sq, r.	S by E. C. NNE. C. NNE. NE by N. V. NNE. NNE. NE by N.		25		6	6. 5	
8	60¼	30.1	30.0	60	30.0	sq, r. sq, r. c. sq, r. sq, r. sq, r. f.	NNE. NNE. NNE. V. N by E. N. V. NNW. V.					3.55	5.57

ude from Greenwich						Latitude		Cor. Long.	Magnetical								
									Variation.		South Dip						
											Face						
TK.	D. ☽ T.K.	☽	S.	O.	E D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.		ML.	
° ′	′	° ′			′	° ′	° ′	° ′	° ′	′ °	°	°	°	°		6084	
W 25. 6						S 32. 3	S 32. 8	W 27.10	E 2.26* *1.27	E *1.42	31.3	32.3	31.7	32.5	Not steady.	152	An incr 9 P.M.
						33.14	[33.19]	[24. 3]	0.44*						No obs. too much motion.	184	Strong g 12. 30.
19.24						33.35	33.35	21.22			34.	35.	34.4	35.2	Very unsteady.	141	First pa modera 4. 29.7
17.33						34. 9	34. 7	19.28	W *2.35		33.4	34.4	34.	34.6	Unsteady.	86	Major part
16.29						34.26	34.25	18.21		W 3.18*	34.4	35.4	35.	35.6	Not very unsteady.	55	Winds bar. 3 9 A.M to the
14.30						33.37	33.34	16.19							No obs. too much sea.	129	First pa hard g the shi 6. 29.2
11.34						33.37	33.23	13.20					35.	35.6	Very unsteady.	117	Squally Bar. 4 9 A.M
9.27						33.37	33. 9	11.10								103	First an great 5. 30.1
						33.37	[33.21]	[9.53]								62	First, li with r rim rou
5.57						33.51	33.48	7.37								109	First an modera a pinta 9. 29.9
																7222	

An increasing gale from NW quarter, with frequent squalls. 9 P.M. bar. 30.1¾. 8 A.M. 30.2¼. T.S. 65°½.

Strong gales, with hard squalls and rain. 9 P.M. bar. 30.1½. 12. 30.1. 8 A.M. 29.9½. 10. 29.9. 11½. 29.8½.

First part, blowing very fresh from N.W. Latter, more moderate, with very large sea. Bar. 1¼. 29.7½. 2½. 29.7. 4. 29.7½. 6. 29.8. 8. 29.8. 10. 29.8. A.M. 7. 29.8.

Major part, light breezes, with great swell.

Winds variable, with squally weather and confused sea. bar. 3 P.M. 29.8. 6. 29.7¾. 10. 29.7. 8 A.M. 29.3. 9 A.M. 29.2¾. About noon, it appeared very threatning to the Northward, but the clouds dissipated.

First part, squally with some rain. The middle, excessive hard gales, with a great sea; and the spray so thick that the ship was covered with it. 2 P.M. bar. 29.2¾. 4. 29.2. 6. 29.2¾. 9. 29.5. 7 A.M. 29.7½. 9. 29.7¾. 11. 29.8.

Squally weather, with much hail and rain, and a large swell. Bar. 4 P.M. 29.8½. 6. 29.9. 8. 30.0. 7 A.M. 30.0¼. 9 A.M. 30.0¾.

First and middle, fresh gales and squally. Latter, moderate; great swell. AM. some silver birds. Bar. 2 P.M. 30.0¾. 5. 30.1. 10. 30.2. 7 A.M. 30.2. 9. 30.3.

First, light airs, with cloudy weather. Latter, fresh gales, with rain. P.M. Venus appeared very dim and fuzzy; a rim round the Moon. 9 A.M. bar. 30.1½. 11. 30.0¾.

First and middle, hard gales, squally with rain. Latter, moderate and hazy; great swell. A.M. some silver birds, a pintado bird. Bar. 2 P.M. 29.9½. 8 A.M. 29.9½. 9. 29.9¾. 10. { 30.0. / 30.0¼.

1775	Th.	Marine Barometer, R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude from A.	T.K.
		In.Dec.	In.Dec.	°	In.Dec		′	′	′	′	° ′	° ′
Aug. 9	62½		30.0½	62½		f. NW by N. NNW. f. sq. h. sq, r. NNW. N by E. sq, r. r. sq. N by E. N. sq. sq, r. N.		8		17	W 1.29	W 3.14
10	62¼	30.2½	30.2	62	30.1½	sr. h. N. N by W. h. dr. h. N by W. N. h. c. N. N by E. c. N by E.		4		4	E 1.15	0.26
11	61¼	30.1½	30.0½	60¼	30.0	h. N by E. h. sq. N by E. NNE. sq. c. NNE. c. f. NNE.		17		1	4. 5	E 2.25
12	60	30.1	30.0¼	59½	29.9¼	h. N by E. h. sr. N by E. sr. N. V. hr. V.		10		25	6.17	5. 2
13	58¾	30.2	30.1¼	59¼	30.0	r. c. N by W. NNW. c. sr. c. f. NNW. NW. f. NW. NNW. f. sq, r. c. NNW. NW by W. W by N. W.					8.43	7.26
14	58¾	30.3½	30.3¼	59	30.2½	f. WSW. SW by W. c. SW by W. SSW. S by W. c. S by W. V. c. V. WSW. C.		16		16	10. 4	9. 3
15	60½	30.3	30.2¾	60½	30.1½	f. c. V. c. NW by W. NW. c. NW. WNW. V. c. V. NNW.				32	11.10	10.41
16	60½	30.1½	30.1¼	60½	30.0¾	c. N by W. c. f. c. N by W. sr. c. sq. c, sr. N by W. N by E. sr. c. N by E.		2		9	13.32	13 12
17	61	30.2	30.2	61	30.1	c. sq. sq, r. N by W. V. NNW. sq, r. NNW. NW by N. sq, r. c. NW by N. V. c. NW by N.	8		19		16.29	15.50
18	61	30.2½	30.2½	61	30.1½	f. N by E. N by W. f. c. N by W. c. h. N by W. N. V. h. V.	4		9		19. 1	18.13

Ship Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPLE

ude from Greenwich						Latitude		Cor. Long.	Magnetical									
									Variation		South Dip							
											Face							
T.K.	D. ☽ T.K.	☽	S.	O.	E. D.	A.	O.		Az.	Amp.	E.	W	MD.	C.D.		ML.	
° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		7222	
W 3.14	E	E				S 34. 6	S 34.11	W 4.51	W 8.50*	W 8. 1*						122	First, moc squalls ar 12½. 30.(
0.26						34. 6	34.15	2. 0			37.	39.	38.	38.6	Very unsteady.	136	Major pa 7. 30.1. Two blac silver bird
E 2.25						34. 1	34.27	E 0.54	*12.43							140	Fresh gale 9 P.M. A.M. ma
5. 2						33.47	[34.36]	3.34			39.4	41.	40.2	41.	Unsteady.	110	Most part, to 30.0½. Johns. fo pintado bi
7.26						33.37	34.13	6. 3	*16.9							122	Most part, 4. 30.0¼. Several p tados.
9. 3						33.44	34. 4	7.43	16.43*		41.4	43.2	42.3	43.1	Very steady.	67	First part, 30.1½. some porp
10.41						33.49	34. 9	9.24			41.4	43.4	42 4	43 2	Extremely steady.	55	First part, with cloud
13 12	94	11.38	4	☉	13	33.53	34.15	11.58	18.18*	17.52*	42.6	44.	43.3	44.	Very steady.	119	Moderate Bar. 4 P 8 A.M. 3 several fil about.
15.50	75	14.35	1	☉	Dat. 5°.	34. 1	34.15	14.39	19.39*	19.56*	43.4	45.2	44 3	45.	Not very steady.	146	Fresh gales P.M. lar sheerwater 7 A.M. 3
18.13						34. 5	34.15	17. 5	20.50* *22. 0	20.47*	45.6	46.4	46.1	46.6		126	Pleasant b A.M. tw swallow-t ral gramp
																8365	

First, moderate breezes and fair. Latter, fresh gales, with squalls and rain. Bar. 8 P.M. 30.1. 9. 30.0¾. 11. 30.0. 12½. 30.0 6 A.M. 29.9½. 8. 29.9½. 9½. 30.0½.

Major part, fresh gales. Bar. 2½ P.M. 30.0½. 5. 30.0¾. 7. 30.1. 8. 30.1¼. 11½. 30.1¾. 6 A.M. 30.2. 9. 30.2 Two black alcatrasses. A.M. a few pintado birds and som silver birds.

Fresh gales, with squally weather and a large sea. Bar. 9 P.M. 30.2. 11. 30.1½. 9 A.M. 30.1. 10. 30.0½. A.M. many pintado birds, sheerwaters, &c. one alcatrass.

Most part, fresh breezes and hazy. Bar. 1 to 10 P.M. 30.0¼ to 30.0½. 8 A.M. 30.0¼. 9. 30.0½. A.M. several poor Johns. some sheerwaters, and a young alcatrass, but no pintado birds.

Most part, fresh gales with some rain. Bar. 1 P.M. 30.0. 4. 30.0¼. 8. 30.0¾. 8 A.M. 30.0½. 9. 30.0¾. 11. 30.1½ Several poor Johns, sheerwaters; and A.M. a few pintados.

First part, fresh breezes. Latter, light airs. Bar. 8 PM. 30.1¼. 12. 30.2½. 9 A.M. 30.3¼. 12. 30.3¾. A.M. some porpoises.

First part, variable. Latter, an increasing gale from NW. with cloudy weather. Bar. 9 P.M. 30.3¼. 11. 30.3.

Moderate gales, with some light squalls and smooth water. Bar. 4 P.M. 30.2½. 6. 30.2. 10. 30.2¼. 12. 30.2. 8 A.M. 30.1½. 11. 30.1¼. A.M. some pintado birds, and several silver birds, some setting on the water, others flying about.

Fresh gales throughout, with cloudy weather and some squalls. P.M. large black alcatrass. A.M. some pintado birds, sheerwaters, &c. Bar. 3 P.M. 30.1¼. 9. 30.1¼. 12. 30.1½. 7 A.M. 30.1½. 9. 30.1¾.

Pleasant breeze and mostly hazy. Several pintado birds. A.M. two birds, somewhat larger than silver birds, with swallow-tails flying above the ship; also a Cape hen, and several grampusses. Bar. 9 P.M. 30.2½. 12. 30.2¼ 9 A.M. 30.2½

1775	T.	Marine Barometer R.	S.	Th.	D.	Weather and Winds.	D. L. A. O. N	S	D. L. A. T. K. W	E	Longitude from A.	T.K.
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′ E	° ′ E
Aug. 19	60¼	30.1	30.0	60½	30.0	h. N by E. WNW. NW by N. h. dr. NW by N. WNW. dr. fr. WNW. V. fr. V.	7			8	19.49	19. 9
20	61	30.0½	30.0½	60½	29.9½	h. NNW. h. NNW. N. V. NE by N. h. N by E. N. NNE. h. N by E. NE.						
21												

p Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPLE.

ude from Greenwich						Latitude		Cor Long.	Magnetical									
									Variation		South Dip							
T.K.	D. ☾ T.K.	☾	S.	O.	E. D.	A.	O.		Az.	Amp.	Face E.		MD.	C.D.		ML.	
° ′ E	′	° ′ E				° ′ S	° ′ S	° ′ E	° ′ W	° ′ W	°	°	°	°		8365	Most par from m
																	At 5½
19. 9						34.19	34.22	18. 6			45.2	46.6	46.	46.5	Very steady.	44	At
																	A
																	Lon Cap Lon True Erro
																	Major pa At 4 h. Sunset * R
							34.15			22.31*	45.6	45.6	45.6	46.3	Perfectly steady.	70	L
																	R
																	Sunrise,
																	At noon
																	N. B. for varia
											45.2	46.4	45.7	46.4	Very steady.	8479	At 4 P.M in towa Ark W

Moſt part, light breezes and hazy. At 2 P.M. ſaw the land from maſt-head ESE. per compaſs.

At 5½ h.	Peaked hum of Cape Good Hope,		S 52°.48′ E
	Hum. miſtaken for Cape,		S 57. E
	L. ext. Table Land,		E 4. N
	L. ext. in ſight,		E 19. N
At Sun-riſe	Sugar Loaf,	N 69°. E	
	Table Land,	N 73. E	
	Cape Good Hope,	S 60. E	
At noon	L. ext.	N 55. E	
	Cape Good Hope,	S 61. E	

Longitude per T.K.	19°. 9′ E
Cape *Good Hope* per chart,	0.21 E
Longitude of *Cape* per T.K.	19.30
True longitude of *Cape*,	18.27
Error of T.K.	1. 3

Major part, moderate and hazy. In Falſe Bay.
At 4 h. Cape Good Hope, E 16°. S.
Sunſet * L. ext. N 21°. E.
R 2.18 Bluff Point in one with Hummock.
72.30 Cape Good Hope * 2d.
86. 6 Hanglip.
* 2d Cape Good Hope.
L 24.30 Hummock, called *Cape* laſt night.
7. 0 Hummock.
1.50 Outer Hummock and higheſt part diſt. Ridge.
R 13.48 Hanglip.
Bellows, E 15°. S.
Sunriſe, Hanglip, S 47°. E.
Cape Good Hope, S 36°. W.
White Sand Hills in Symmon's Bay, N 33°. W.

At noon	Hanglip Point,	S 35°. E
	Cape Good Hope,	S 50. W
	Noah's Ark,	NW about 4′ diſt.

N. B. All theſe bearings are by compaſs, without allowing for variation.

At 4 P.M. being calm, hoiſted out the pinnace, and towed in towards the harbour. At 7 anchored in 20 fath. Noah's Ark W. Roman Rock NW ½ W diſt. about two miles.

Aug. 21	Strong gales and squally.	S. S by E.	At 4 A.M. found ship drove, veered to a whole cab
22	Fresh gales with hard squalls. P.M. increasing.	S by E.	
23	Strong gales and excessive hard squalls. Towards midnight began to moderate.		At 8, gale increasing, swayed up lower yards. At
24	Moderate and fair.	SE.	At 1 P.M. anchored in Symmon's Bay, in 7½ fath.
25	Moderate and cloudy.	NW.	
26	Fresh breezes, with some rain.	W. SW.	
27	Light breezes mostly from SE. with fair weather.	SE.	
28	Light breezes and fair.	V.	Sailed a Dutch snow.
29	First and middle, moderate and cloudy, with some rain.	NW to W.	Sailed La Bretagne, Capt. MANSON for Mauritius.
	Latter, squally.	SW.	
30	Strong gales and clear weather.	SSE.	Returned.
Sept. 1	Moderate and fair for most part, and a swell.	SE.	
2	Strong gales and hard squalls.	NW.	
3	Major part, squally with rain. Towards evening, light breezes and fair.	NW.	Sailed again.
4	Moderate and fair.	V.	
5	Strong gales and very hard squalls; could not send a boat ashore.	S by E.	
6	Moderate and fair.	V.	
7	Mostly light breezes.	V.	Sent long-boat to endeavour taking up the anchor: r
	P.M. a fresh gale.	Wy.	
8	Moderate breezes.	SW.	
9	Moderate and fair.	V.	
10	Strong gales and hard squalls.	S by E.	
11	Light winds from Southward, and fair weather.	Sy.	
12	Fair.	V.	
13	Fair.	V.	
14	Light airs and	C.	Sailed the Anson, Capt. TRYON, for England.
15	First part, calm. Latter part, breezes.	C. Wy.	Sent long-boat again to try for the anchor, but could
16	Fair.	V.	
17	Strong gales, with rainy weather.	NW.	
18	Fresh gales.	NW.	

e Ship Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMP

whole cable; got down top-gallant yards, lowered fore and main yards, and got ſheet anchor overſide.

ds. At noon, cloſe reefed top-ſails, ſtopt the cable, and came to ſail.

7½ fath. when moored, lower flag ſtaff from Point WSW. Dolphin's Noſe NE. Roman Rocks E½S. Noah's Ark SE.

uritius.

nchor: returned with 80 fathoms of cable, but could not weigh the anchor.

nd.

but could not purchaſe it.

LRYMPLE.

ırk SE. Hanglip SE¼S off ſhore ¾ of a mile.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer 1 h.	Marine Barometer D.	Weather and Winds.	D.L. A.O. N	D.L. A.O. S	D.L. A. T.K. W	D.L. A. T.K. E	Longitude fro A.	Longitude fro TK.
		In.Dec.	In.Dec	°	In.Dec.		′	′	′	′	° ′ E	° ′ E
Sept. 19	59		30.1	59		f. NW. NW by W. c. f. NW by W. WNW. f. C. c. C. E. C. WNW. NW.					18.43	18.52
20	59¼		30.0¾	59		c. NW. NW by N. c. sq. NW by N. N by W. sq. c. N by W. NNW. c. sq. sq, r. NNW.	4				21.26	
21	57½		30.1½	57¾		c. NW by W. WNW. W by S. c. sq. c. W by S. W. c. W. W by S. c. sq. sq, r. W by S.	8				24.22	
22	62		30.2½	62		sq. W by S. SW. c. f. S by W. S. f. c. S. C. V. c. f. NE. NE by E. ENE.	10		49		25.36	
23	66½		29.6¾	66		f. NE by E. ENE. f. NE by E. f. NE by E. f. ENE. NE by E.	6				27. 8	
24	65		29.5½	65		h. NE by E. h. NE by E. NE by N. V. h. c. V. W. c. W. WNW. NW by W.		9			28.13	27.23
25	58½		29.7	58½		c. W by N. V. W by N. c. h. c. r. c. W by N. WNW. V. NW. c. r. NW. V. r. sq. WSW.	15				29.35	
26	61	29.9½	29.9	61	29.8½	sq. WSW. sq. sq, fr. sq. WSW. SW by W. c. r. SW by W. W by S. W by N. r. W by N. WNW.	21			31	32. 9	31.50
27	62½	30.1½	30.1¼	62½	30.0¾	c. N by W. c. sq, r. N by W. NNW. sq, r. h. NNW. W by N. sq. c. W by N. W. WNW.	1				35.18	

itude from Greenwich							Latitude		Cor. Long.	Magnetical									
										Variation.		South Dip							
												Face							
	TK.	D. ☽ T.K.	☽	S.	O.	E D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.			M L.	*Cape*
	° ′ E	′	° ′			′	° ′ S	° ′ S	° ′ E	° ′ W	′ ° W	°	°	°	°				
3	18.52							34.48	18.52									17	At Su N by ext. i land. 9 or ESE: from At no lip N N 57 great
5							35.59	35.55	[21.15]									154	Fresh gal
2							36.21	36. 9	[24. 1]									144	Fresh gal
6							36.37	36.15	[25. 5]									66	First breez it wa Man
3							37.34	37. 6	[26.27]									92	First confu 9. 3 tado
3	27.23						37.58	37.39	27.23									58	First a ve trasse
5							37.32	36.58	[29. 0]									69	First p fwell trils, 29.6½
9	31.50						37. 1	36. 6	31.50			52.4	53.4	53.	53.4	Not very steady.		127	Strong alcat 2 P. 29.9.
3							36.40	35.24	[34.55]									158	First p fwell. 4 P. 30.1.
																		885	

Cape of GOOD HOPE lat. 34°.22′ S.
long. 18.27 E.

7	At Sun-set, Cape Good Hope NW=WNW. Table Land N by W=NW by N. Hanglip E 7 N=E 29½ N. Eastern ext. in sight E5°S=E 17½ N distance 6 leagues from nearest land. At Sun-rise, Cape Good Hope N by W½W=NW½N 9 or 10 leagues. Hanglip Point NE=NNE. Ext. to Ed. ESE=E. Saw a sail, supposed the Gatton, come round from Table Bay, to join us. At noon, Cape Good Hope N per comp. =N 22½ W. Hanglip N 35 E=N 12½ E 9 leagues. Eastern ext. N 80 E=N 57½ E. Major part, light breezes and fair weather, with great swell from SW.
4	Fresh gale, with a very large sea. Bar. 9 P.M. 30.1. 8 A.M. 30.1.
4	Fresh gales and great swell. Bar. 8 P.M. 30.1. 8 A.M. 30.1.
6	First part, decreasing gale. Middle, calm. Latter part, a breeze from the NE. Great swell. A.M. bar. 30.3. N.B. it was not observed at noon. Past 1 P.M. it was 30.2½ Many alcatrasses, pettrils, pintado birds, &c.
2	First part, fresh gales. Latter, hard gales, with great and confused sea, Mostly fair weather. 2 P.M. bar. 30.2½. 9. 30.1. 11. 30.0. 8½ A.M. 29.8. Many pettrils, pintado birds, &c.
8	First part, hard gales from Nd. Latter, from Wd. with a very large NE swell, confused in heaps. Many alcatrasses, pettrils, pintado birds, &c. Bar. 29.6 to 29.5½.
9	First part, light breezes. Latter part, fresh breezes. A.M. swell much abated. Many alcatrasses, pintado birds, pettrils, &c. Bar. 2 P.M. 29 5¾. 3. 29.6. 12. 29.6. 8 A.M. 29.6½. 9. 29.6¾.
7	Strong gales, mostly Wd. with squalls and some rain. Many alcatrasses, pintado birds, &c. and great many pettrils. Bar. 2 P.M. 29.6½. 4. 29.7. 6. 29.8. 9. 29.8½. 8 A.M. 29.9. 9. 29.9¼. 11. 29.9¼.
8 / 5	First part, fresh gales and squalls. Latter, moderate. A great swell. Many alcatrasses, pintado birds, pettrils, &c. Bar. 4 P.M. 29.8½. 6. 29.9. 9. 29.9. 12. 29.9. 8 A.M. 30.1. 9. 30.1¼. 11. 30.1¼.

1775	Th.	Marine Barometer, R.	S.	Th.	D.	Weather and Winds.		D.L A.O. N	S	D.L. A. T.K W	E	Longitude from G A.	TK.	D. T.
	°	In.Dec.	In.Dec.	°	In.Dec			′	′	′	′	° ′	° ′	′
Sept. 28	62¾	30.3	30.2¾	62½	30.2	h. sq, r. r. r. h. h. h.	W by N. W. W by N. W by N. NW by W. V. NW by W.		1	9		E 36.54	E 36.26	1
29	67¼	29 9½	29.9¼	67	29.9	f. f. sq. h. sq. c. c.	NW by N. N by W. N by W. V. N by E. N by E. N. N. N by E.	4			27	39.48	39 47	
30	56½	30.2	30.1¾	56½	30.1¼	c. hsq, r, L, Th. L. to sw. c. c. sq, r. sq, r. h. c.	N by E. N. V. V. W. W by S. W by S. SW by W. SW.	20			6	42.52	42.57	
Oct. 1	61¼	30.3¼	30.3	61	30.2½	h. c. c. c. c.	WSW. S by W. S. S. SSE. S by E. SE. SE by E. SE by S. SE. C. E.	19			12	43.59		
2	65½	30.1¾	30.1¾	65	30.1	c. sr. sr. c. sq. h. h. h.	E by S. E. V. V. ESE. E. ENE. NE. NE. NE by N.					45.24	45.41	59
3	67¼	30.3	30.2¾	67	30.2	f. f. h. f. f. sq. h. h. f.	NE. NE. NE. NE. NE by E.		2		3	47.36	47.56	32
4	66½	30.3¼	30.2¾	66	30.2½	h. h. h. h.	NE by E. NE. NNE. NNE.		2		6	50.15	50.41	34
5	67	30.2½	30.2¼	67	30 1¾	h. h. h. sq. c. c.	NE by N. NE by N. NE by N. N. N.	2			1	53. 8	53.35	
6	62¼	30.2	30.1¾	62	30.1¼	h. h. h. h. c.	N by W. N by W. NNW. NNW. NW. NW. WNW. NW. V. S by E. SSE.	12			20	55.14	56. 1	
7	62½	30.3¾	30.3¾	62	30.2½	c. sq. r. r. h. h. f. f.	SE by E. V. SSE. ESE. SE by S. S by E. S. S by W. S by W. V.	17			13	56.11	57.11	26

Ship Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPLE.

de from Greenwich TK.	D. ☽ T.K.	☽	S.	O.	E. D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation Az.	Variation Amp.	South Dip Face E.	Face W	MD.	C.D.		ML.	G denot Gatton
° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		885	
E	E	E				S	S	E	W	W							
36.26						36. 3	34.49	36.26		27.30*	57.4	58.4	58.	58.4	Very unsteady.	86	Pleasant b &c. Bar. 8 A.M. 30
39 47						35.49	34.31	39.47	27.43*							144	Major part pettrils, & 30.2¼. 5. 8. 29.9½.
42.57						35.34	33.56	42.57								153	First and lightning, ther. Ma ver bird. 6. 29.7¼.
						35.22	33.25	[44.10]								64	First part, A.M. man 9. 30.3.
45.41	9 59W	45.32 46.40	6 3	☉ *An.	26 21	35.55	33.58	45.41					59or60		Extremely unsteady.	85	First part, trasses, &c 30.3. 8.
47.56	32E	47.24	5	☉	38	36. 6	34.11	47.56	26.49*		59.	60.	59 4	60.	Very unsteady.	110	Moderate b birds, grea 4 az. 26° 30.1¼. 12
50.41	34W	51.15	3	☉	26	36.13	34.20	50.41							*Larboard-side of cabbin.*	132	Mostly fresh water smoo 30.2½. 4. 9. 30.3.
53.35						36.11	34.16	53.35	25.57*	25.39*						143	Fresh breeze 4 az. 26° 30.2¼. 6
56. 1						36. 4	33.57	56. 1	24.42*		59.4	61.	60.2	60.6	Very steady.	106	First part, an alcatraz var. 2 az. 2 10. 30. ¾.
57.11	26E	56.45	4	*An.	23	35.49	33.25	57.11								53	First and mi and fair and other b 9½. 30.2½.
																1961	

G denotes *Capt. Money's* Obſervations in the *Gatton*, the longitude reduced to *noon*.

Pleaſant breeze. Many alcatraſſes, pintado birds, pettrils, &c. Bar. 3 P.M. 30.1½. 6. 30.2. 10. 30.2½. 12. 30.2½. 8 A.M. 30.2¾.

Major part, freſh gales. Many alcatraſſes, pintado birds, pettrils, &c. Gatton, var. az. 28° 13′* W. Bar. 1 P.M. 30.2¼. 5. 30.1¾. 9. 30.1. 12. 30.0½. 6 A.M. 29.9¾. 8. 29.9½. 10. 29.9½.

Firſt and middle, freſh gales, with hard ſqualls, thunder, lightning, and rain. Latter, blowing freſh and hazy weather. Many pettrils, pintado birds, &c. and A.M. one ſilver bird. Bar. 2 P.M. 29.8¾. 4½. 29.8½. 5¾. 29.7½. 6. 29.7¾. 8½. 29.8¾. 9¾. 29.9. 11. 29.3.

Firſt part, freſh gales. Latter, light breezes and calm. A.M. many alcatraſſes, &c. Bar. 2½ P.M. 30.2. 5. 30.2. 9. 30.3. 12. 30.3. 6 A.M. 30.3½. 8. 30.3¼. 11¼. 30.3.

Firſt part, light breeze. Latter, freſh. P.M. many alcatraſſes, &c. G long. ☉ and ☾, 45° 31′ E. Bar. 5½. P.M. 30.3. 8. 30.3. 12. 30.2. 8 A.M. 30.1½.

Moderate breezes throughout, weather changeable. Few birds, great dews, and water remarkably ſmooth. G var. 4 az. 26° 46′*, amp. 26° 47′*. Bar. 2 P.M. 30.1½. 6. 30.1¾. 12. 30.2¼. 8 A.M. 30.2½. 9¼. 30.3.

Moſtly freſh gales. Some pintado birds. A.M. great dews; water ſmooth. G long. ☉ and ☾ 50° 39′ E. Bar. 1½ P.M. 30.2½. 4. 30.2¼. 7¾. 30.2. 12. 30.2. 6 A.M. 30.2¾. 9. 30.3.

Freſh breezes. Some pintado birds. A.M. one pettril. G var. 4 az. 26° 9′*, amp. 26° 7′*. Bar. 2 P.M. 30.2¼. 6. 30.2¼. 6 A.M. 30.1¾. 8. 30.2. 9½. 30.2¼.

Firſt part, freſh gales. Latter, light and variable. P.M. an alcatraſs. A.M. ſeveral alcatraſſes and pintado birds. G var. 2 az. 24° 42′*. Bar. 1¾ P.M. 30.2. 4. 30.1¾. 6. 30.1½. 10. 30. ¾. 12. 30.1¼. 8 A.M. 30 1¾. 9. 30.2.

Firſt and middle, light breezes and rain. Latter, light breezes and fair weather. P.M. *a turtle paſſed*; ſeveral alcatraſſes and other birds. Bar. 2½ P.M. 30.1¾. 5. 30.1¾. 6. 30.2. 9½. 30.2½. 12. 30.2½. 8 A.M. 30.2¾.

1775	Th.	Marine Barometer. R.	Marine Barometer. S.	Marine Barometer. Th.	Marine Barometer. D.	Weather and Winds.	D.L. A.O. N	D.L. A.O. S	D.L. A. T.K. W	D.L. A. T.K. E	Longitude from A.	Longitude from TK.
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′ E	° ′ E
Oct. 8	61½	30.3½	30.3	61	30.2½	c. SW. V. c. C. V. f. V. W. f. V. NW by W.		2		23	56.32	57.55
9	63½	30.4¼	30.3¾	63	30 3¼	f. NW by W. WNW. W by N. f. W by N. WSW. f. WSW. SW by W. f. h. SW by W. V.	13			12	58.18	59.53
10	61½	30.4½	30.4	61¼	30.3½	h. f. S by W. S by E. SSE. f. V. SE by S. S by E. f. S by E. C. f. WNW. NW. WNW.	5			1	58.46	60.22
11	62½	30 3¼	30.2¾	62¼	30.2½	f. NW by W. f. c. NW by W. c. NW by W. WNW. c. f. WNW.	6			27	60.18	62.21
12	64¼	30.3¼	30.3	64	30.2½	f. WNW. f. WNW. f. h. c. WNW. c. WNW.	4			12	61.39	63.54
13	65¼	30.2¼	30.1¼	65	30.1¼	h. NW by N. NNE. h. NNE. N by E. h. c. N by E. c. sq. c. N by E.		2		10	63.34	65.59
14	66	30.3	30.2½	65½	30.2	h. N by E. h. N by E. NNE. h. NNE. h. NNE. NE by N.	2			21	65. 6	67.52
15	64¾	30.0	29.9½	63½	29.8½	f. NNE. NE. f. sq. NE. sq. h. NE. NE by N. NNE. h. sq. NNE.		24		24	67.26	
16	59	30.3	30.2½	59	30.2	sq, r. r. h. NNE. V. N. h. N. NNW. NW. h. c. NW. W by S. SW by S. c. SW by S. S by W.					69.34	72.44
17	62¼	30.4¼	30.4¼	62¼	30.2½	c. SSE. c. SSE. SE by S. c. SE by S. ESE. V. c. V. C.	11		5		70.30	73.35

Ship Grenville, *Capt.* BURNET ABERCROMBIE, *kept by* ALEXANDER DALRYMPLE, 17

ude from Greenwich TK.	D. ☽ T.K.	☽	S.	O.	E. D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation. Az.	Variation. Amp.	South Dip Face E.	Face W.	MD.	C.D.		ML.	
° ′ E	′ E	° ′ E			′	° ′ S	° ′ S	° ′ E	° ′ W	′ ° W	° 61.	° 63.	° 62.	° 62.4	Pretty steady. *Larboard-side of cabbin.*	1961	
57·55						35·50	33·28	57·55	23·48*	24. 2*	61.4	62.	61.6	62.2	Ditto. *Starboard-side of cabbin.*	21	Mostly Few b P.M. 3
59·53	4	59·49	5	A *	32	36. 5	33·30	59·53	23·49*	23·57*	61.4	62.2	61.7	62·3	Very steady.	89	Major p noon a same ti some d Bar 2½
60.22	45	59·37	6	A *	28	36. 0	33.20	60.22	21.43*	21.52*	61.4	62.4	62.	62.4	Pretty steady.	24	Mostly *grampu* az. 22°
62.21						36. 6	33.20	62.21	23.10*	22.47*	61.4	62.4	62.	62.4	Not very steady.	77	Pleasant long sw
63·54						36.10	33.20	63·54	21. 5*	20.51*	62.2	63.2	62.6	63.2	Very steady.	68	First pa swell f 30.2¾.
65·59						36.14	33.26	65·59	20.27*	20.34*	62.4	63.2	62.7	63·3	Not very steady.	96	First par birds. G var. 10½. 3
67·52	W 25	68.17	5	⊙	27	36. 4	33.14	67·52	19.35*		61.6	62.4	62.1	62.5	Pretty steady.	78	Pleasant Bar. 6
						35·55	[33·17]	[70.24]	18.43*							117	First pa damp 6 P.M
72.44	E 35	72. 9	2	⊙	19	35. 4	32·38	72.44			61.4	62.2	61.7	62.3	Not steady.	120	Fresh g birds, 6. 29.7 10. 30
73·35						34·57	31.41	73·35								66	First pa with a &c. 30.2¾. 30.4.
																2717	

Mostly light airs and calms, with large swell from SW. Few birds. G var. 3 az. 23° 32′*, amp. 23°50′*. Bar. 6 P.M. 30.3½. 8 A.M. 30.3¼. 10. 30.3¼.

Major part, pleasant breezes and fair weather. Just before noon a *seal* passed close to the ship on the larboard side, at same time a flock of a vast number of *small white birds* at some distance on starboard quarter. G var. 2 az. 23° 25′*. Bar 2½ P.M. 30.3. 7. 30.2¾. 1 A.M. 30.3¼. 9. 30.3½.

Mostly light airs, with a large swell from Wd. P.M. a *grampus* very near the ship. Several alcatrasses, &c. G var. az. 22°19′*, amp. 22°23′*.

Pleasant breezes. Some pintado birds, &c. smooth water, but a long swell from SW. G var. az. 22° 30′*, amp. 22° 45′*.

First part, pleasant breezes. Latter, light airs, with great swell from SW. Some pintado birds, &c. Bar. 2 P.M. 30.2¾. 11½. 30.2¾. 8½ A.M. 30.3.

First part, light breezes. Latter, moderate. Several pintado birds. A.M. a silver bird and pettril, several poor Johns. G var. 3 az. 21° 28′*, amp. 20° 59′*. Bar. 2 P.M. 30.2¾. 10½. 30.2¾. 1 A.M. 30.2¼.

Pleasant breeze. Great dews. G long. ☉ and ☽ 67° 56′. Bar. 6 P.M. 30.2. 11. 30.2¼. 12. 30.2½. 8 A.M. 30.2½.

First part, moderate. Latter, fresh gales and squally. Very damp weather. G var. 2 az. 19° 23′*, amp. 19° 43′. Bar. 6 P.M. 30.2. 12. 30.1¼. 9 A.M. 29.9½.

Fresh gales, with squally weather. A.M. many pintado birds, some alcatrasses, &c. Bar. 2 P.M. 29.8½. 4. 29.8¼. 6. 29.7¾. 10. 29.8½. 12. 29.9. 7½ A.M. 30.1½. 9. 30.2 10. 30.2.

First part, moderate. Latter, light airs inclinable to calm, with a great swell. Several pintado birds, some alcatrasses, &c. At night, water luminous like blubbers. Bar. 2 P.M. 30.2¾. 4½. 30.3. 6. 30.3. 10. 30.3½. 12. 30.4. 8 A.M. 30.4. 9. 30.4½. 10. 30.4½.

1775	Th.	Marine Barometer. R.	S.	Th.	D.	Weather and Winds.		D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude fro A.	TK.
	°	In.Dec.	In.Dec.	°	In.Dec.			′	′	′	′	° ′	° ′
Oct.												E	E
18	63¼	30.4¼	30.4	63	30.3¼	f. c.	V. C.						
						c.	C. E by N. V. NE. V.			6		70.32	73.31
						c. h. c.	NE by E. NE. V.						
						c.	V. N by E.						
19	66½	30.4	30.4	66½	30.3	h. c.	NNE. N. N by E. NE.						
						c.	NNE. N by E. NNE. NE.		5		10	71.18	74.27
						c.	NE. NE by N. NNE.						
						c.	NE by N. N by E.						
20	65		30.3	64¼		f.	NE by N.						
						f.	NE by N. N by E.		1		8	72.21	75.38
						f.	N. NNE.						
						f.	NNE. N by E. N.						
21	63¼	30.2½	30.2	64¼	30.1¼	f.	N. N by W.						
						f. c.	N by W.	10			22	73.16	76.55
						c. sq. c.	NNW. NW by N.						
						c. sq, r.	NW by N. NW. V. SW by S.						
22	61¾	30.4	30.3½	61½	30.3	f.	SSW.						
						f.	SSW. S by E.	7		15		74.46	78.10
						c.	SSE.						
						c.	SSE. SE.						
23	66	30.3¾	30.3¼	66	30.3	c.	SE by E. ESE. E.						
						c.	E. V.	21		4		75. 9	78.29
						c. sq.	E by N.						
						sq. c.	E by N.						
24	71	30.3¾	30.3	71	30.2½	f.	NE by E.						
						f.	NE by E. NE.		3	24		74.43	77.39
						f.	NE. NE by E.						
						f.	NE by E. V.						
25	71¼	30.3¾	30.3¼	70½	30.2½	f.	NE by N. C.						
						f.	ENE. E by S, C.		5		2	74.47	77.45
						f. c.	C.						
						c. f.	C. SW by S. C.						
26	70¼	30.3¾	30.3	70¼	30.3	h. sq, r.	S by W. S by E. SE.						
						sq, r. sq. c. r.	SE. ESE.	8		1		75.43	78.40
						r. sq, r.	ESE.						
						sq. sq, r.	V.						
27	71	30.3	30.2½	70¾	30.2	sq, r. sq.	V. E. E by S.						
						sq. sq, r.	E by S.	37		4		75.41	78.34
						sq, r.	E by N. E. E by N.						
						sq, r. sq.	E by N. E.						

e Ship Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPI

itude from Greenwich TK.	D. ☽ T.K.	☽	S.	O.	E. D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation Az.	Magnetical Variation Amp.	Magnetical South Dip Face E.	Magnetical South Dip Face W	Magnetical South Dip MD.	Magnetical South Dip C.D.		ML.	
° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		2717	
E		E				S	S	E	W	W							
73.31						34.53	31.37	73.31			61.	62.	61.4	62.	Pretty steady.	33	M
74.27						34.52	31.41	74.27			60.6	61.6	61.2	61.6	Very steady.	40	I
75.38	3W 64E 60E	75.41 74.34 74.38	4 4 4	⊙ ⊙ ⊙	37 51 35	34.49	31.39	75.38	14. 9*	14.48*						55	P
76.55						33.45	30.25	76.55			59.4	60.4	60.	60.4	Very steady.	84	M
78.10						31.47	28.20	78.10	12.44*	12.49*	58.	58.6	58.3	58.7	Not steady.	142	F
78.29						29.55	26.28	78.29			56.4	57.2	56.7	57.3	Very steady.	97	M
77.39						29. 4	25.37	77.39	7.53* * 10.10	8. 1*	56.2	56.6	56.4	57.		59	F
77.45						29. 6	25.44	77.45	10. 3* *9.20	*9. 8	56.2	57.	56 5	57.1	Extremely unsteady.	7	M
78.40						27.17	23.47	78.40								120	F
78.34						25.49	21.42	78.34								89	F
																3443	

ML.	
2717	
33	Mostly light airs and calm, witha large swell. At night, sea luminous like blubbers. Several alcatrasses, &c. lost sight of Gatton; got sight of her again before noon. Bar. 2 P.M. 30.4. 5½. 30.4. 11. 30.4. 1 A.M. 30.4. 8. 30.4¼. 10. 30.4¼.
40	Light airs. Sea luminous at night like blubber. P.M. an uncommon bird like Cape hen, some alcatrasses. Bar. 2 P.M. 30.4. 4. 30.4. 10. 30.4. 12½. 30.4. 7½ A.M. 30.3¾. 8½. 30.4. 10. 30.4¼.
55	Pleasant breezes. Sea luminous at night like blubbers. A.M. sky mare's tails. No birds. G var. 4 az. 15° 24′*. amp. 15° 2*. Long. ☉ and ☽ 75° 56′. Bar. 2½ P.M. 30.3¾. 11. 30.3¾. 1 A.M. 30.3¾. 8. 30.3½.
84	Moderate breezes. Sea luminous at night like blubbers. Towards evening became cloudy. No birds. G var. 2 az. 14° 10′*. Bar. 2 P.M. 30.3. 6. 30.2½. 8. 30.2½. 10¾. 30.2¾. 12. 30.2½. 8 A.M. 30.2. 9. 30.1¾. 10. 30.2. 11. 30.2½.
142	Fresh gales. A.M. one or two poor Johns. No other birds. G var. 2 az. 12° 31′*, amp. 12° 51′*. Bar. 2 P.M. 30.2. 4. 30.1¾. 5½. 30.2. 6½. 30.2¼. 10½. 30.2¾. 12. 30.2¾. 9 A.M. 30.3½.
97	Major part, moderate breezes. P.M. several poor Johns, though slenderer and smaller than usual. A.M. poor Johns, a pettril, and a sheerwater. Bar. 2 P.M. 30.3. 6½. 30.3¼. 12. 30.3½. 8½. 30.3¾. 9. 30.3¾. 10. 30.3¾.
59	First part, pleasant breeze. Latter, light air and variable. P.M. an alcatrass. A.M. an alcatrass. G var. 2 az. 8° 54′*, amp. 9° 9′*. Bar. 2 P.M. 30.3. 4. 30.2½. 6. 30.3. 7½. 30.3. 11. 30.3.
7	Mostly calm. Some birds at distance. G var. az. 8° 38′*. Bar. 2 P.M. 30.3. 8. 30.3. 10. 30.3¼. 8 A.M. 30.3. 8½. 30.3¼. 9. 30.3½.
120	Fresh gales, with squalls and rain; sometimes squalls very hard. Great irregular swell. Several birds, chiefly poor Johns or black sheerwaters, being of the colour of the former, and shape like the latter, but without white breasts. Bar. 2 P.M. 30.3. 5. 30.2¾. 6. 30.2¾. 8. 30.3. 12. 30.2¾. 9 A.M. 30.3.
89	Fresh gales and squally. Several sheerwaters, or birds like them, of different colours, grey, brown, and blackish; some white breasted and white under the wings. Bar. very unsteady these two days from ship's motion. Great irregular sea. Bar. 2 P.M. 30.2¾. 2½. 30.3. 4. 30.2½. 6. 30.2½. 10. 30.3. 12. 30.3. 8 A.M. 30.2½. 9. 30.2½. 10. 30.2½.
3443	

1775	°	Marine Barometer R. In.Dec.	S. In.Dec.	Th. °	D. In.Dec.	Weather and Winds.	D.L. A.O. N ′	S ′	D.L. A. T.K. W ′	E ′	Longitude from A. ° ′ E	T.K. ° ′ E
Oct. 28	72	30.2½	30.2	72	30.1½	sq. sq, r. E. E by S. sq. E by S. sq. c. sq. ESE. E by S. sq. h. E by S. ESE.	16			8	76. 9	79.10
29	73	30.2½	30.2	73¾	30.1½	c. ESE. E by S. ESE. c. E by S. c. sq. h. ESE. E by S. h. f. E by S. ESE. E by S.		2	8		76.52	79.45
30	75	30.2	30.1½	74½	30.1	f. sq. ESE. E by S. sq. c. ESE. E by S. c. E by S. c. E by S.	5		15		77.39	80.17
31	77	30.1	30.0½	77	30.0	h. ESE. E by S. h. sq. E by S. sq, r. sq. E by S. E. sq. E. E by N.		3		3	78.10	80.51
Nov. 1	78	30.1	30.0¼	78½	30.0	h. sq, r. E. VE. sq, r. h. E. h. sq, hr. E. VEy. sq. c. VEy.	1			1	78.17	80.59
2	81	30.0¾	30.0¼	81	30.0	h. E by N. h. E by S. E by N. h. V. E. E by N. h. f. E by N. E.			10		78.26	80.58
3	81	30.0½	30.0	80¾	29.9½	f. c. E. c. E. c. f. E. f. E.	5		9		79. 5	81.28
4	82	30.0½	29.9¾	82	29.9¼	f. c. E. E by S. E. c. f. E. f. E. f. E.	5		13		79.36	81.46
5	82	30.0	29.9½	81½	29.9	h. E. h. E. h. f. E. V. E. f. E.	7		18		80.19	82.11

hip Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPLE.

tude from Greenwich						Latitude		Cor. Long.	Magnetical								
									Variation		South Dip						
											Face						
T.K.	D. ☾ T.K.	☾	S.	O.	E. D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.		ML.	
° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		3443	
E	E	E				S	S	E	W	W							
79.10						24.17	19.54	79. 4								96	Mostl large Bar. 6. 30
79.45	35 56	79.10 78.49	4 4	⊙ ⊙	27 10	22.54	18.33	79.33								93	Fresh P.M. high, G lor 6. 30. 10. 3
80.17						21.11	16.45	79.59		4. 4*	46.2	47.2	46.6	47.3	Unsteady.	113	Strong Vast 3. 30 30.1½
80.51						19. 8	14.45	80.27	*3.17		44.	45.	44.4	45.1	Ditto.	127	Squally unsett 4. 30 8. 30
80.59						17.15	12.51	80.29			41.	42.	41.4	42.1	Very steady.	114	Squally shape, ⊙ an 9½. 3
80.58	114 108	79. 4 79.10	8 6	⊙ ⊙	42 30	15.44	11.20	80.22	1.20* *1.12	*1.42	38.6	39.4	39.1	39.7	Unsteady.	92	Moder grey more Bar. 30.0¾
81.28						13.47	9.18	80.46	0.59*		35 4	36.4	36.	36.6	Not steady.	123	Pleasan a trop tance, var. a 7½ A.
81.46	82 41	80.24 81. 5	6 6	*At. A *	17 28	11.57	7.23	80.58	0. 3*		32.6	33.6	33.2	34.		114	Major and m
82.11						10. 5	5.26	81.17	*0. 8		29.2	29.6	29.4	30 3	Extremely steady.	119 4434	Fresh booby fometi Southe like a ☾. az. * 29.9.

6	Mostly fresh gales from Eastward, with squalls and rain and a large swell. Several birds as before. A.M. many flying fish. Bar. very unsteady, 1 P.M. 30.2½. 4. 30.1½. 5¼. 30.2. 6. 30.2. 8. 30.2¼. 10. 30.2½. 12. 30.2½. 9 A.M. 30.2½.
3	Fresh gales, with some squalls. Several birds as before. P.M. a large white bird which flapped its wings and flew high, unlike the birds which are found in the main sea. G long. ☉ and ☾ 77° 39′ E. Bar, 2 P.M. 30.1¾. 4. 30.1½. 6. 30.1½. 10. 30.2. 11½. 30.2. 8 A.M. 30.2¼. 9. 30.2¼. 10. 30.2½.
3	Strong gales, with frequent squalls. Some birds as before. Vast flocks of flying fish. Swell abated. Bar. 2 P.M. 30.2. 3. 30.1¾. 4. 30.1½. 10½. 30.2. 12½. 30.2. 8 A.M. 30.1½. 9. 30.1½.
7	Squally. Few birds as before. Swell increased and weather unsettled. G long. ☉ and ☽ 79° 8′ E. Bar. 2 P.M. 30.1. 4. 30.1. 6. 30.0¾. 10. 30.1. 12½. 30.1. 6 A.M. 30.0½. 8. 30.0¾. 9. 30.0¾. 10½. 30.0½.
4	Squally. P.M. a tropic bird, which resembles a paroquet in shape, but is of a whitish grey. Swell much abated. G long. ☉ and ☾ 79° 10′ E. Bar. 2 P.M. 29.9¾. 4. 30.0. 6. 30.0. 9½. 30.0¼. 12½. 30.0. 9 A.M. 30.0¼.
3	Moderate breezes, with some squalls. A.M. few birds; the grey white under wings; frequently overcast. A.M. a little more swell from Northward. G var. 2° 3′*, amp. 2° 4′*. Bar. 2½ P.M. 29.9¾. 6. 30.0. 12½. 30.0¼. 8 A.M. 30.0¾. 9½. 30.0¾. 11½. 30.0½.
3	Pleasant gale, with fair weather. A.M. a bird, larger than a tropic bird, with black wings and white body at a distance, it flapped the wings very much. A head swell. G var. az. 1° 0′*, 0° 52′*. Bar. 2 P.M. 30.0¼. 6. 30.0¼. 7½ A.M. 30.0½.
4	Major part moderate. P.M. some *Southern lights*, very rare and motionless. Bar. 2½ P.M. 29.9½. 6. 29.9¾. 8. 30.0.
4	Fresh gales, with fair weather. P.M. a large bird of the booby kind above the ship; it had a long neck, and was something in shape and size like a wild goose. At night, *Southern lights*, some diverging in rays downwards, some like a rare cloud, very little motion; a faint ring round ☾. A.M. four tropic birds. G var. 4 az. 0° 21′ *E. az. *0° 4′ E. Bar. 2½ P.M. 29.9½. 6. 29.9¼. 1 A.M. 29.9. 8. 29.9½.

1775	Th.	Marine Barometer. R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K W	E	Longitude from A.	TK.
	°	In.Dec.	In.Dec	°	In.Dec.		′	′	′	′	° ′ E	° ′ E
Nov. 6	2¾	30.0¼	29.9¾	82¼	29.9¼	c. E. c. E. c. E. E by N. E. c. E by N. E.	1		18		80.48	82.22
7	83	30.0	29.9½	82½	29.9	h. E. E by S. h. E. E by S. h. ESE. c. SE by E.	9		31		81.46	82.49
8	83¼	30.0¼	29 9¼	82½	29.9¼	h. SE by E. h. E by N. ENE. E. h. sq. E. E by S. f. E by S.	17		20		82.12	82.55
9	83¾	29.9¾	29.9	83¼	29.8½	f. V. E. f. E by N. E. f. hr. dr. E. E by N. V. c. E.		14	53		82.31	82.21
10	81¾	29.9¾	29 9	81¼	29.9¾	c. E by S. E. E by S. c. r. c. V. c. V. E by N. E by S. c. sq. E by S. SE by E. SE. SE by E.	3		45		83.19	82.24
11	83¾	29.9¾	29 9	83½	29.8¾	h. c. SE by E. c. E by S. ESE. E by S. c. E by S. E. E by S. sq, hr. c. ESE. V.	9		33		84. 5	82.37
12	80¾	29.9½	29.9	80¼	29.8½	sq. r. V. r. L. to nw. f. V. c. sq, r. L. to e. V. E by N. sq. r. V. NE. V.			32		84.25	82.25
13	82	29 9½	29.8¾	82	29.8½	c. r. c. C. V. C. c. hr. c. L. to s. C. c. C. c. sq, r. c. C. V. NW. V.	2		19		84 33	82.14
14	82	29.9½	29.8¾	82	29.8½	c. sq, hr. NW by W. V. c. V. NW. C. c. C. V. W by S. c. r. c. W by S. SW. SSW.			2		85. 0	82.39

he Ship Grenville, *Capt.* BURNET ABERCROMBIE, *kept by* ALEXANDER DALRYMPLE, I

ude from Greenwich						Latitude		Cor. Long.	Magnetical								
									Variation.		South Dip						
											Face						
TK.	D. T.K.	☽	S.	O.	E D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.		ML.	
° ′ E	′ E	° ′ E				° ′ S	° ′ S	° ′ E.	° ′ E	′ ° E	°	°	°	°		4434	
82.22	75	81. 7	5	*F	37	8.24	3.44	81.22	*0. 8		26.2	26.6	26.4	27.3	Very steady.	101	Modera motio G var 29.9½.
82.49						6.19	2.30	81.43	1.12*	1. 6*	24.4	25.	24.6	25.5	Not steady, ship laying to for boat.	89	Moderat Bar. 2
82.55						5.17	1.11	81.43			22.	22.2	22.1	23.	Extremely steady.	69	Major the G Mr. P.M.
82.21						4.20	0.18	81. 3			20.	20 4	20.2	21.1	Very steady.	61	Variable 9 A.M
82.24						3.18	N 0.47	81. 0	0.52*		19.4	19.	19.4	20.1	Not very steady.	81	Mostly appear time l fresh w the ref the fit not se 29.8¾.
82.37						2. 3	2. 1	81. 7			15 4	15 6	15.5	16.4		82	Most pa latter e
82.25						1.12	2.52	80.49			15.4	16.	15.6	16.5	Pretty steady, but ship not having steerage-way.	61	Winds land b distanc a gull. 8 A.M
82.14	95	80.39	3	⊙	28	1.12	2.54	80.32			14.4	15.4	15.	15.7	Very steady.	8	Light a &c. ⊙'s li P.M. 2
82.39						1. 7	2.59	80.51			15.	16.	15.4	16.3	Not very steady.	28	Winds plover: Bar. 2 11½. 2
																5014	

Moderate breezes. *Northern lights* to Northward. Little motion, but great extent, and afterwards *Southern lights*. G var. amp. 0° 48′ *E. Bar. 2 P.M. 29.9¼. 1 A.M. 29.9½. 9. 30.0.

Moderate breezes. G var. az. 0° 45′ *E, amp. 0° 13′ *E. Bar. 2 P.M. 30.0. 6. 29.9½. 1 A.M. 29.9¼. 8. 29.9½.

Major part, moderate breezes. A.M. came on board from the *Gatton* Major SEARS and Capt. ALCOCK for Madrass, Mr. HORSLEY went aboard that ship for Bombay. Bar. 2 P.M. 29.9. 12. 29.9¼. 9 A.M. 29.9¾.

Variable winds, with rain at times. Bar. 4 P.M. 29.8¾. 9 A.M. 29.7¾.

Mostly fresh breezes. At 10½ A.M. there was to the SE. the appearance of something black like *a rock*, and at the same time like *a shoal*; but it being to windward, and ship having fresh way, could not determine whether it was *a shoal* or the reflection of the Sun behind the clouds. This is nearly the situation of the *Ouro*. A man sent to mast-head could not see any thing. Bar. 2 P.M. 29.8½. 9. 29.8¾. 12. 29.8¾. 8 A.M. 29.9½.

Most part the wind Easterly, with some squalls towards the latter end. Bar. 1 A.M. 29.9. 8. 29.9¼.

Winds variable with unsettled weather. P.M. a bird like a land bird. A.M. many yellow tails; two black birds at a distance like land birds: a white bird with black wings, like a gull. Bar. 2 P.M. 29.8½. 4. 29.8. 9. 29.9. 12. 29.9. 8 A.M. 29.9¼. 10½. 29.9½. 11. 29.8¾.

Light airs and calms, with hard rain. Many fish, porpoises, &c. A.M. a mottled grey bird of the booby kind. The ☉'s limb not distinct when longitude observed. Bar. 2½ P.M. 29.8½. 12½. 29.8¾. 7½ A.M. 29.8¼. 8½. 29.9¼.

Winds and weather very unsettled. P.M. a sea bird like a plover: many fish. P.M. caught a shark. A.M. saw a sail. Bar. 2 P.M. 29.8½. 4. 29.8¾. 12¾. 29.9. 8 A.M. 29.9½. 11½. 29.9.

1775	Th.	Marine Barometer. R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude from A.	TK.
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′	° ′
Nov. 15	81¾	29.9½	29.9	81¾	29.8½	c. sq, r. sq, hr. V. c. sq. r. V. W by N. W by S. r. sq, r. c. W by S. SSE. SSW. c. SW.		19	2		E 86. 9	E 83.46
16	81	30.0	29.9¼	80½	29 9	c. sq, hr. SW. S. hr. V. S by W. hr. c. S by W. SW. c. r. c. SW.		9		6	87. 5	84.48
17	80	29.9¾	29.9	80	29.8¾	sq, hr. c. sq. S. V. c. hr. c. sq, hr. S by W. SSE. SE. sq, hr. V. S by E. r. c. S by E. C.	21			18	88. 2	86. 3
18	83½	30.0	29.9¼	83½	29.9	sr. c. C. E. E by S. c. r. E by S. r. c. E. E by N. NE by E. c. sq. NE by E. NE by N. N by E.	6			9	88.16	86.26
19	83	29.9¾	29.9	83	29.8¾	c.sq,r.sq,th,L,hr. NNW. NW. V. sq. th, L, hr. V. C. V. C. r. c. V. N. c. r. c. N. N by E. NE by N.		18		19	88.57	87.26
20	82½	30.0	29.9½	82¼	29.9	sq, sr. sq. NE by N. NE. sq.sq,L,hr.hr. NEbyE. EbyN. NEbyE. ENE. NE. hr. sq. V. SE by E. SE. SSE. c. sq, flying sh. SSE. S by W.		30		13	90.27	89. 9
21	80¾	30.0¼	29.9¾	80½	29 9¼	r. SW. V. r, L. to nw. V. C. V. h. V. C. h. r. h. C. V. W. V. N.	15			27	90.54	90. 3
22	81¾	30.0	29.9½	81¾	29.9	c. sq. N. N by W. sq. hr. c. r. N by W. C. SE by S. V. r. V. r. c. NE by E. C.	14			55	91.17	91.21
23	82		29.9½	82		c. C. E. V. c. V. E by N. c. h. NE by E. NE. h. NE by E. NE. NNE.	6			8	91. 8	91.20

Ship Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPI

tude from Greenwich						Latitude		Cor. Long.	Magnetical								
									Variation		South Dip						
											Face						
TK.	D. ☽ T.K.	☽	S.	☉	E. ☽.	A.	O.		Az.	Amp.	E.	W	MD.	C.D.		ML.	
° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		5014	
E	E	E				S	N	E	W	W							
83.46						0.57	2.50	81.52			14.4	14.6	14.5	15.4		71	Mostly colou shorte 29.8½
84.48	76	83.32	4	☉	18	0.46	2.52	82.48			13.4	14.	13.6	14.5	Very steady.	57	First pa latter, very 4. 29.
86. 3						0.32	3.27	83.57			14.4	15.2	14.7	15.6		59	Very u 2. 29. *At firs* was a when *and flo* E 14 W 15
86.26						0. 3	4. 2	84.13			11.1	11.5	11.3	12.2	Pretty steady.	38	Mostly bird in *pretty* P.M.
87.26						0. 3	3.44	85. 7			10.6	11.2	11.	11.7		44	Variabl wings like a few ye like a 1 A.M
89. 9						0.17	3. 0	86.40			11.4	12.2	11.7	12.6	Not very steady.	102	Fresh h The l to be a like a 29.8¾. 10. 29
90. 3						0. 3	3.29	87.28			10.2	10.6	10.4	11 3	Very steady.	30	Variabl A.M. ½ P.M 12½ A.
91.21						N 0. 9	3.55	88.39			10.6	11.2	11.	11.7	Very steady, but ship not having steerage way.	30	Major aboard kind. Water 12½ A.
91.20						0.45	4.37	88.31			7.6	8.4	8.1	9.	Very steady.	39	First pa weathe birds. Bar. 4 9. 30.c
																5484	

4

1 Mostly variable wind and rain. P.M. a sail; shewed French colours on firing a gun to speak with her, but did not shorten sail. Several birds and many fish. Bar. 2 P.M. 29.8½. 6. 29.9. 12. 29.9¼. 8 A.M. 29.9¼.

7 First part, mostly squally with very heavy rain. Middle and latter, light airs and cloudy with some rain. ☉'s limb not very distinct when *long.* observed. Bar. 2 P.M. 29.8¾. 4. 29.8¾. 10. 29.9½. 12. 29.9½. 8 A.M. 29.9½. 9. 30.0.

Very unsettled weather with rain. Bar. 1 P.M. 29.9¼. 2. 29.9. 4. 29.9. 9½. 30.0. 1 A.M. 29.9¼. 9. 29.9¼. *At first the dipping-needle had no motion,* but with the face East was at 12 4/8; when moved a little, *it remained motionless*: when moved with the face to West, *the needle turned round, and stood any where.* Moved several times, it pointed with face E 14 4/8, W 15 2/8 } Very steady.

Mostly light breezes. P.M. saw two dolphins, heard a tropic bird in night. A.M. caught two dolphins. *Dipping-needle pretty steady, and no appearance of defect as yesterday.* Bar. 2 P.M. 29.8¾. 4. 29.8¾. 12¼ A.M. 29.9. 8. 29.9½. 11. 29.9½.

Variable winds, with rain. P.M. a swallow with short wings and white breast. A.M. a small land bird shaped like a water wag-tail, but in colour like a linnet, with a few yellowish feathers in the flank. A.M. a bird at distance like a gannet. Bar. 2 P.M. 29.8½. 4. 29.8½. 6. 29.8½. 1 A.M. 29.9½. 8. 29.9¼.

Fresh breezes, with some squalls and a great deal of rain. The land bird aboard still. P.M. heard a bird, supposed to be a booby. A.M. passed a drift; a grey sea bird shaped like a plover. A black sea bird at a distance. Bar. 1 P.M. 29.8¾. 6. 29.8½. 1 A.M. 29.9. 7½. 29.9½. 9. 29.9½. 10. 29.9¾. 11. 29.9¾. 11¼. 29.9¾.

Variable, with rain and calms. The land bird aboard still. A.M. saw a tropic bird. Passed a drift. Light airs. Bar. ½ P.M. 29.9½. 2. 29.9. 4. 29.9¼. 6. 29.9½. 7. 29.9½. 12½ A.M. 29.9¾. 8. 29.9¾. 10. 30.0.

Major part, light breezes, with some rain. The land bird aboard still. P.M. saw a booby, some fish of the porpoise kind. A.M. a horse fly, several riplings, and many fish. Water luminous at night. Bar. 4 P.M. 29.9¼. 5. 29.9¼. 12½ A.M. 29.9¼. 7. 29.9¾. 8½. 30.0. 9. 30.0. 10½. 30.0.

First part, calm. Latter, light breeze from NE. with hazy weather. The land bird aboard still. A.M. several tropic birds. Passed a bamboo adrift. Water luminous at night. Bar. 4 P.M. 29.9¼. 6. 29.9. 14½ A.M. 29.9¼. 8. 29.9¾. 9. 30.0.

1775	Th.	Marine Barometer. R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude from Gre A.	TK.	D. D T.K.
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′ E	° ′ E	′ E
Nov. 24	82¼	30.0¼	29.9	82¼	29.9	f. NNE. NE by N. NE. f. NE. r. f. NE by N. f. ſq, r. c. NE.		10	32		90.29	90. 9	
25	82	30.0¼	29.9¾	82	29.9¼	c. ſq. NE. V. ſq. c. r. V. E by N. ſq, r. V. ENE. ſq. c. ſq. NE by E. NE.		19	43		90.13	89.10	
26	82	30.0¼	29.9¾	81½	29.9¼	ſq, ſr. c. ſq, r. V. NE. V. ſq, r. ſq. c. NE. V. c. V. NE by E. c. ſq. NE. NE by E. V.		8	30		90 19	88.46	
27	83½	30.0¼	29.9¾	83½	29.9½	ſq. ſq, r. NE. V. c. L. all round. V. E by N. ſq. h. L. all rd. E. E by N. h. E by N.		3	55		90.48	88.20	79
28	84½	29.9¼	29 9¼	84½	29.9	c. E by N. c. E by N. ENE. E by N. c. ſq. E by N. E. ſq. c. E by N.	4		20		90.50	88. 2	142
29	84½	30.0½	30.0	84½	29.9½	ſq, r. c. ſq. V. E. ſq, r. c. V. ENE. c. ENE. c. h. NE by E. ENE. NE by E.	15		13		90.39	87.38	152 139 160

in the Ship Grenville, *Capt.* BURNET ABERCROMBIE, *kept by* ALEXANDER DALRYMPL

rom Greenwich						Latitude		Cor. Long.	Magnetical										
									Variation.		South Dip								
											Face								
..	D. ☽ T.K.	☽	S.	O.	E. D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.					
′	′	° ′			′	° ′	° ′	° ′	° ′	′ °	°	°	°	°					
	E	E				N	N	E	E	E						h. m.	By estimation. N.lat.	Long.	
9						1.37	5.19	88.13		0.53*	7.	7.2	7.1	8.		11. 0PM	4.39	88.29	
											6.4	6.6	6.5	7.4		9. 0AM	5.21	88.26	
															Very steady.				
											8.2	8.4	8 3	9.2		1. 0PM	5.17	88.18	
											6.2	6.6	6.4	7.3		9.15	5.23	88.10	
:0						2.50	6.13	87. 7			5.6	6.2	6.	6.7		12.30AM	5.45	88.11	
											5.	5.4	5.2	6.1		9.10	6. 4	87.25	
											4.4	5.	4.6	5.5		0.30 PM			
16						3.23	6.38	86.36			5 4	6.2	5 7	6.6	Very steady.				
:0	79	87. 1	5	⊙	43	3.28	6.40	86. 3			4.2	4.6	4.4	5.3	Very unsteady.				
2	142	85.40	6	⊙	38	4.46	8. 2	85.40			3.	3.4	3.2	4.1		1. 0AM	7.20	86. 2	
															Very steady.				
											1.6	2.2	2.	2.7		0.30 PM	8. 5	85 40	
																Very steady, though ship pitching.			
											0.4	1.	0 6	1.5		6.30	8.20	85.39	
											0.2	0.6	0.4	1.3		9. 0	8.25	85.38	
	152	85. 6	5	⊙	37						0.0	0 4	0.2	1.1		11.10	8.30	85 37	
8	139	85.19	7	⊙	20	5.57	9.28	85.10			ND.				Very steady.				
	160	84.58	6	⊙	21						0.2	0.2	0.0	0.7		1. 0AM	8.35	85 36	
												ND.	ND.	ND.	Pretty steady,				
											1.2	1.6	1.4	0.5		9. 0	9.14	85.15.	
											1.2	1.4	1.3	0.4		0.45PM.	Not very steady.		

	ML.	
	5484	
mation. Long. 88.29 88.26	73	Moderate breezes, and mostly fair. The land bird aboard still. A.M. saw a ship, the Dudley, Capt. BARRINGTON, from Madrass to the Nicobars and Pegu; the Captain came on board. At 10 saw another ship. Bar. 6 P.M. 29.9. N.B. *Standing to SW.* from 10 A.M. to 1 P.M. *the dipping needle increased in dip, the distance not above 10 miles*
88.18 88.10 88.11 87.25	81	Winds from NE. with frequent squalls and rain. The land bird aboard still. 1 P.M. spoke the ship Floyer, from Madrass to Malay Coast, Capt. RICH. Water luminous. Sea bird shaped like plover, grey with upper part of head black, and wings tipped with black. Same bird seems to have been about ship several days. Bar. 5 P.M. 29.9. 6. 29.9. 1 A.M. 29.9½. 8. 30.0. 9. 30.0¼. 11. 30.0¼.
	87	Fresh gales and squally throughout. The land bird aboard still. Sea very luminous. P.M. a small mew came on board. Bar. 2 P.M. 29.9¼. 10. 30.0. 1 A.M. 29.9½. 8. 30.0.
	64	Winds most Easterly, with squalls and rain. Sent a boat on board a country snow with red colours; she was bound from *Trankebar* to *Acheen*. Sight ☉ not very good. Bar. 4 P.M. 29.9¼. 6. 29.9¼. 12½ A.M. 29.9¾. 8½. 30.0¼.
86. 2 85 40	78	Moderate breezes, and mostly cloudy. Bar. 2 P.M. 29.9½. 4. 29.9. 6. 29.9. 12½ A.M. 29.9½. 8. 29.9¼. 11. 29.9½.
pitching. 85.39 85.38 85 37 85 36	72	Increasing breeze from Eastward, with squally weather and rain. Bar. 3 P.M. 29.8¾. 4. 29.8¾. 6. 29.9. 1 A.M. 29.9. 9. 30.0. 10. 30.0.
85.15. y steady.	5939	

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th	Marine Barometer D.	Weather and Winds.	D. L. A. O. N	D. L. A. O. S	D. L. A. T. K. W	D. L. A. T. K. E	Longitude from A.	Longitude from T.K.	D T
	°	In. Dec.	In. Dec.	°	In. Dec.		′	′	′	′	° ′ E	° ′ E	
Nov. 30	84½	30.2¼	30.0	85	29.9½	c. NE by E. c. ENE. c. h. ENE. NE by E. h. NE by E.	11			5	90.15	87.19	
Dec. 1	78		30.0	77½		h. NE by E. N. NE by N. h. NE by N. NNE. h. c. sq, r. NNE. NE. sq, r. sq, hr. NE. V.		9	6		90.36	87.34	
2	82½	30.0	29.9½	82	29.9¼	sq, r. r. V. r. c. V. NE. N by E. c. N by E. NE by N. NNE. c. NE by N.			5		91.20	88.13	
3	83½	30.0	29.9	83¼	29.9	c. NE by N. NNE. c. NE by N. NE. c. h. NNE. N by E. h. f. N. NNW. N by W.		8		9	92. 4	89. 6	9
4	83	30.0	29.9½	83¼	29.9	h. NNW. NW. NW by W. V. h. c. L. to nw. V. WNW. c. WNW. V. c. SW. V. SSW.		4		3	92.16	89.21	11
5	84	30.0¼	29.9¾	83½	29.9¼	h. SSW. h. SSW. S. h. f. S. V. SE by S. f. SE by S.	2			5	91.58	89. 8	
6	83	30.0	30.0	83½	29.9	f. SE. SE by E. f. sq, r. sq, sr. SE by E. E. ENE. V. sq, hr. c. V. C. NE by E. c. E by N.		9	9		91.16	88.17	13
7	80½	30.0¾	30.0¼	80½	29.9¾	c. ENE. NE by E. c. NE by E. NE. NE by E. c. NE by E. c. f. NE by E.		12	17		89.26	86.10	
8	81¼	31.0½	31.0	81¼	30.0½	h. ENE. c. f. ENE. NE. f. NE. ENE. f. h. ENE.		12	3		87. 9	83.50	188 20

p Grenville, *Capt.* BURNET ABERCROMBIE, 1775, *kept by* ALEXANDER DALRYMPLE.

de from Greenwich						Latitude		Cor. Long.	Magnetical								
									Variation		South Dip						
											Face						
T.K.	D. ☾ T.K.	☾	S.	O.	E. D.	A.	O.		Az.	Amp.	E.	W.	MD.	C.D.		ML.	
° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°			
E	E	E				S	S	E	E	E						5939	
87.19						7.13	10.55	84 55			4.	4.4	4.2	3.3	Very steady.	79	Moderate b 29.9¼. 8
87.34						7.24	[11. 1]	85.15			3.6	4.2	4.	3.1	Pretty steady.	61	Variable w land bird 1 P.M. 3 12½ A. M
88.13						7.17	10.50	85.58			2.2	2.6	2.4	1.5	Not steady.	52	First part, very black and it ca A.M. the 4. 29.9. 7½. 29.9½.
89. 6	97	87.29	4	*A *F	43	7. 8	10.33	86.49			3.	3.6	3.3	2.4	Not very steady.	47	Decreasing land bird. 4. 29.9. 29.9½.
89.21	116	87.25	6	*A	12	7.52	11.13	87. 2	1.32*	1.41*	5.4	5.6	5.5	4.6	Very steady.	52	Mostly ligh 29.8¾. 6.
89. 8						8.39	12. 2	86.47	*1.12	*1.22	6.6	7.2	7.	6.1	Very steady.	50	Light breeze flew like a 7 A.M. 29
88.17	137	86. 0	6	*P	28	9.42	12.56	85.44			7.6	8.2	8.	7.1	Pretty steady.	75	First part, The same Saw a fno Bar. 4 P.I 10. 30.0. 29.9¾. 8½
86.10						11. 0	14. 2	83.45			8.6	9.2	9.	8.1	Pretty steady.	134	Fresh gales, board. A r 4. 29.9¼.
83.50	188 205	80.42 80.15	5 6	*A *A	36 43	11.27	14 17	81.23			9.2	9.6	9.4	8.5	Very steady.	135	Fresh breeze 2¾ P.M. 29 30.0½. 9.
																6624	

Moderate breezes, and mostly hazy. Bar. 3 P.M. 29.9½. 5. 29.9¼. 8 A.M. 30.0.

Variable winds and weather, with much rain. A.M. a small land bird, probably same we lost some days ago. Bar. 1 P.M. 30.0. 3. 29.9¼. 4. 29.9¼. 6. 29.9½. 9¾. 30.0¼ 12½ A. M. 29.9¾. 7½. 30.0. 8. 30.0¼. 8½. 30.0½.

First part, squally with rain. Past 6 P.M. weather looked very black and threatening, but the barometer did not fall, and it came to nothing. Middle and latter, moderate A.M. the same land bird. Bar. 2 P.M. 29.9½. 2½. 29.8¾ 4. 29.9. 6. 29.9. 9¾. 30.0. 12½ A.M. 29.9¼. 6. 29.9 7½. 29.9½. 8¾. 29.9¾. 11½. 29.9¾.

Decreasing breeze, with pleasant weather. A.M. the same land bird. A small mew about ship. Bar. 2½ P.M. 29.9 4. 29.9. 7. 29.9¼. 12. 29.9¼. 7 A.M. 29.9¼. 7½ 29.9½.

Mostly light airs. A.M. the same land bird. Bar. 2 P.M. 29.8¾. 6. 29.8¾. 10. 29.9¼. 12. 29.9¾. 7 A.M. 29.9.

Light breezes. A.M. the same land bird. P.M. a land bird, it flew like an owl. Bar. 3 P.M. 29.9. 4. 29.9¼. 7. 29.9½ 7 A.M. 29.9¾. 11½. 29.9¾.

First part, moderate breezes. Middle and latter, squally. The same land bird on board. A sand lark on board. Saw a snow standing to N^d: it hoisted English colours. Bar. 4 P.M. 29.9¼. 7½. 30.0. 7¾, *in squall*, 29.9¾. 10. 30.0. 12½ A.M. 29.9½. 12¾, *before hard rain*, 29.9. 29.9¾. 8½. 30.0. 9¼. 30.0.

Fresh gales, with pleasant weather. The same land bird on board. A mottled bird came on board. Bar. 2½ P.M. 29.9¼ 4. 29.9¼. 6. 29.9¼. 10. 30.0. 8 A.M. 30.0½. 11. 30.0¼.

Fresh breeze throughout. A small land bird aboard. Bar. 2¾ P.M. 29.9½. 4. 30.0. 6. 30.0. 1 A.M. 30.0. 30.0½. 9. 31.0¼.

1775	Th.	Marine Barometer. R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude from A.	TK.	D T
	°	In.Dec	In.Dec.	°	In.Dec.		′	′	′	′	° ′ E	° ′ E	
ec. 9	80		30.1	79½		h. ENE. h. ENE. h. E. h. E. ENE.		22	1		86.18	82.56	
10						f. ENE		6 in 5½ hours.			86.14		
1776 Sept 10	At anchor in Madrass Road, in the Grenville's cuddy (cabbin before the round-house)												
	Ashore, in the fort of the Company's house near the church,												
28	Ditto,												
Oct 3	Ditto,												

By the *latitude* observed at noon, the 9th of December, and the bearings of PULICAT *Flag staff*, we were then from *Fort St. George*, } ° ′ 0.13E

Longitude of FORT ST. GEORGE, by *eclipse* of *Jupiter's first satellite*, 80.29

Longitude of 9th noon, by *map*, – – – 80.42

Longitude by mean of 52 ☽ *observations*, – – 80.28

Difference, – – – – – – .14

° ′ 80.42 Longitude 9th n

82.56 Longitude by T

2.14 Error of Time-

N. B. There being a very considerable difference in the position of Fort St. George acco

° ′ ″

Lat. 13. 8. 0 N. 7th Oct. 1776, A.D. on board the *Swallow* sloop of war { ⊙ merid. alt. ⊙ double alt. } by a *Hadley* made by Bird.

13. 8. 0 { 1761, Rev. Mr. Hirst, many obs. made not long ago with an *excellent quadrant* (vide Ph. Tr. vol. LII. part I. p 396). N.B. It does not clearly appear whether these obs. were made by Mr. Hirst or by some *other person*.

13. 8. 0. { *Several observations* by Mr. William Nicholson, master of the Elizabeth man of war, p. 48. Remarks and Observations made on a voyage to the East Indies.

13. 7. 0 Major James Rennell, surveyor-general of Bengal.

13. 4 54 Major William Stevens, chief engineer of Fort St George.

13. 4 47 Rev. Mr. William Smith, alt. of *, some to Northward, some to Southward.

By a *survey* which has been made of the *country* from FORT ST. GEORGE to *Allimparva*, *Allimparva* is 17 statute miles, or } 14′.36″ W of Fort St. George.

From PONDICHERRY, by M. D'aprés, *Allimparva* is 13. E.

Fort St. George Eastward of Pondicherry, 27.36

Long. from

° ′ ″

80.28.45 H

80.15. 0 A

80.24. 0 A

80. 2.15 R

80.41. 0 R

81. 1.45 D

PONDICH

Ship Grenville, *Capt.* BURNET ABERCROMBIE, *kept by* ALEXANDER DALRYMPLE, 177

de from Greenwich TK.	D. ☽ T.K.	☽	S.	O.	E D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation Az.	Variation Amp.	South Dip Face E.	Face W.	MD.	C.D.		ML.	
° ′ E	′ E	° ′ E			′	° ′ N	° ′ N	° ′ E	° ′ E	′ ° E	°	°	°	°		6624	Pleasant g sand; ar
82.56						11. 9	13.37	80.42			5.6	6.2	5.	5.1	Very steady.	86	h: 2, 2½, 3, 4, 5, 6, 7, 8, 9, 10, 10½, 11, 12 — We
						10.47	[13. 9]									22	At 6h. 30
–	–	–	–	–	–		13. 7				5.6	6.6	6.2	5.3			At 9h. 40
–	–	–	–	–	–		13. 8				5.6	5.6	5.6	4.7			
–	–	–	–	–	–						5.6	6.	5.7	5.			
–	–	–	–	–	–						5.6	6.	5.7	5.			

N.B. All the *observations* of the *dip* were taken with the *needle* standing on the *table* in the Grenville's *round-house* towards the *starboard side* of the ship, except 2d, 3d, 6th, and 8th of October 1775; and 10th and 28th of September, and 3d of October 1776.

ıde 9th noon by map.
ıde by Time-keeper.

f Time-keeper since 18th Sept. in 83 days.

At noon,

h | We
1, 2 } f
At 5h. 30
* Fo
ab

rge according to the different observers, I have annexed a view of them.

Long. from Greenwich.

° ′ ″ 80.28.45	Hon. Thomas Howe, eclipse of Jupiter's first satellite, 5th July 1755.	
80.15. 0	A.D. mean of 52 ☽ observations, compared together by the Time-keeper, in this Journal.	
80.24. 0	A.D. ☉ and ☽ 7th Oct. 1776, 3 sights ext. diff. 10′.	
80. 2.15	Rev. Mr. Hirst, *Transit of Venus* 1761.	
80.41. 0	Rev. Mr. Smith, by Dr. Maskelyne's calculation, } Em. 27th May 1777.	To the *Cape*
81. 1.45	Ditto, by Mr. Smith's calculation, }	

PONDICHERRY, by M. Le Gentil 1769, is in ° ′ ″ 11.55.42 N. ° ′ ″ 79.52.30 E long. from Greenwich.
27.36

Which places *Fort St. George* in 80.20. 6

6732
8479
15,211

9th December.

Pleasant gale. At 2½ P.M. had soundings, 28 fath. gravelly sand; and at day-light saw the land bearing SW by W.

h	Weather.	Winds.	Course	K.F.	Soundings.
2	h.	E	WSW	1.5	30. no ground. 24. gravelly sand.
2½			SbE½E	1.	20. 19. 18. 17. ditto.
3				2.	16½. 18. 17½. 20. ditto.
4			SSE	2.	25. 25½. 26. ditto.
5				2.	25½. 25. blue mud.
6				2.	25½. 26. ditto.
7				2.	26. 27. ditto.
8				2.	37. 26. 25.
9				2.3	25. 24½.
10		ENE		3.	23. 21. 20. 19. 18½. 18.
10½			S	2.2	18. 17½. 17½. 17.
11			S by E	2.	18. to 25.
12			SSE	4.	

At 6h. 30. Armegon Hill, W 13° N 10 or 12 miles off shore. Southernmost part in Pulicat Ridge in *sight*, SW. The extreme in haze.

At 9h. 40. * A Hill or Grove, W 11° S.

	° ′	
R	28.30	Sandy Point of Armegon.
	35.16	White Building.
	43.38	Ext. in sight to the Northward.
L	4.37	Highest Peak of Pulicat Ridge.
	14.25	Kettle Bottom, ditto.
	22.40	Ext. in sight to the Southward.

At noon, * PULICAT Flag-staff, S 52° W.

R	33. 6	Kettle Bottom, Pulicat Ridge.
	46.30	Highest Peak, ditto.
	50. 0	Sandy Point.
L	5. 0	Point to Southward of Pulicat.
	19.30	Tuft near South ext. in sight.

10th December.

h	Weather.	Winds.	Course.	K.F.	Soundings.
1	f.		S	4.5	27. 23.
2			S by W	4.5	20. 13.

At 5h. 30′. Anchored in Madras Road in 10½ fath.

* FORT ST. GEORGE Flag staff, S 81° W. about 4 miles off shore.

	° ′	
R	14.31	Obelisk and Punch-house in one.
	18.15	Armenian Church.
	49.12	White-house on the Sea-beach.
L	18.47	Nabob's White Building.
	25. 9	St. Thomas's Mount.
	28.40	Triplicane Pagoda.
	29. 6	Peak of 4 Sierras.

ERRATA and ADDENDA in the GRENVILLE'S

In the explanation of *weather* dr. denotes *drizling rain*, and a comma (,) after any *all* the *weathers*, ſo ſeparated by *comma*, are connected: thus, ſq, r, th, L. impl *lightning:* ſq. r. th, L. imply *ſqually*, *rain*, *thunder* and *lightning*, to have all b but not at the ſame time.

In the explanation of the 5th column, *for* N denoting that the *obſervation* read N *obſervation*.

		D. L. A. O.		D.L. A. T.K.		Long. from Gr.		Latitude		
	For	N	S	W	E	A.	TK.	A.	O.	*Read*
		′	′	′	′	° E ′	° ′	° ′	° ′	
May 2d, — — — —	—		9	—	—	—	—	—	—	—
4th, — — — — —	—		31	—	—	—	—	—	—	—
8th, — — — —	—		39	—	—	—	—	—	—	—
9th, — — — —	—		11	—	—	—	—	—	—	—
10th, add 4′ to Lat. A till 15th inclusive, and	—	—	—	—	—	—	—	39.26	—	—
14th, — — — —	—		20	—	—	—	—	—	—	—
15th, — — — —	—		25	—	—	—	—	—	—	—
18th, in column D. ☽ T.K. *for* W *read* E										
22d, — — — —	—		18	—	—	—	—	—	—	—
27th, ſubtract 10′ from Lat. A till 20th of June inclusive, and	—	—	—	—	—	—	—	15.32	—	—
June 1ſt, ſubtract 10′ from Long. A to 25th of June inclusive, and	—	—	—	—	—	16.51	—	—	—	—
5th, — — — —	—	—	—	—	20	—	—	—	—	—
9th, — — — —	—	—	—	—	—	—	14. 1	—	—	—
21ſt, ſubtract 11′ from Lat. A till 1ſt July inclusive, and	—	—	—	—	—	—	—	3.45	—	—
26th, — — — —	—	21	—	—	—	10. 2	—	—	—	—
27th, — — — —	—	—	—	—	—	10. 6	—	—	—	—
28th, — — — —	—	—	—	—	—	11.10	—	—	—	—
29th, add 13′ to Long. A till 2d Auguſt inclusive, and	—	—	—	—	—	12.18	—	—	—	—
July 2d, — — — —	—	—	—	—	—	—	—	0.22 S	—	—
3d, — — — —	—	—	—	—	—	—	—	1. 6	—	—
4th, add 21′ to Lat. A. till 19 Auguſt inclusive, and	—	—	—	—	—	—	—	2.13	—	—
24th, add 2′ to Long. T.K. till 28th July inclusive, and	—	—	—	—	—	—	28.12	—	—	—
28th, — — — —	—	—	—	9	—	—	—	—	—	—

:er any *weather* marked, implies that
. imply *ſqually* with *rain*, *thunder* and
ε all been in the period of ſix hours,

ead N denoting that the *latitude* by

Read	D.L. A.O. N	D.L. A.O. S	D.L. A.T.K. W	D.L. A.T.K. E	Long. from Gr. A.	Long. from Gr. T.K.	Latitude A.	Latitude O.
	′	′	′	′	° ′	° ′	° ′	° ′
—	9							
—	–	23						
—	–	19						
—	–	10						
—	–	–	–	–	—	—	39.30	
—	–	26						
—	–	20						
—	–	16						
—	–	–	–	–	—	—	15.22	
—	–	–	–	–	16.41			
—	–	–	–	19				
—	–	–	–	–	—	14 15		
—	–	–	–	–	—	—	3.34	
—	18	–	–	–	10.16			
—	–	–	–	–	10.20			
—	–	–	–	–	11.24			
—	–	–	–	–	12.31			
—	–	–	–	–	—	—	0.33 S	
—	–	–	–	–	—	—	1.23	
—	–	–	–	–	—	—	2.34	
—	–	–	–	–	—	28.14		
—	–	–	–	9				

For	D.L. A.O.		D.L. A. T.K		Long. from Gr.		Latitude		Read
		S	W	E	A.	T.K.	A.	O.	
	′	′	′	′	° ′	° ′	° ′	° ′	
July 29th, add 6′ to Long. T.K. till 10th August inclusive, and	–	–	3	–	—	27.56	—	31.33	—
Aug. 3d, add 11′ to Long. A. to 9th August inclusive, and	–	–	–	–	13.56	—	—	—	—
10th, subtract 11′ from Long. A. till 18 August inclusive; subtract 6′ from Long. T.K. till 12th August inclusive, } and	–	–	–	–	—	2.25	—	—	—
13th, subtract 4′ from Long. T.K. till 18th August inclusive, and	–	–	–	–	—	7.26	—	—	—
14th, — — — —	–	16	–	–	—	—	—	—	—
19th, — — — —	–	–	–	–	—	19. 9	—	—	—
Sept. 20th, subtract 10′ from Long. A. till 8th Dec. inclusive, and	–	–	–	–	21.26	—	—	—	—
27th, subtract 20′ from Lat. A. till 16th Oct. inclusive, and	–	–	–	–	—	—	36.40	—	—
Oct. 17th, subtract 59′ from Lat. A. till 22d inclusive. —	–	–	–	–	—	—	34.57	—	—
23d, — — — —	–	–	–	–	—	—	29.55	—	—
24th, subtract 41′ from Lat. A. till 10th of Nov. inclusive, and	–	–	–	–	—	—	29. 4	—	—
Nov. 5th, — — — —	7	–	–	–	—	—	—	—	—
9th, — — — —	–	14	–	–	—	—	—	—	—
11th, subtract 31′ from Lat. A. till 17th inclusive, and —	–	–	–	–	—	—	2. 3	—	—
18th, — — — —	–	–	–	–	—	—	0. 3	—	—
19th, — — — —	–	–	–	–	—	—	0. 3	—	—
20th, — — — —	–	–	–	–	—	—	0.17	—	—
21st, — — — —	–	–	–	–	—	—	0. 3	—	—
22d, add 31′ to Lat. A. till 9th Dec. inclusive, and —	–	–	–	–	—	—	N 0. 9	—	—
Dec. 9th, — — — —	–	–	–	–	86.18	—	—	—	—
10th, — — — —	–	–	–	–	86.14	—	—	—	—

Read	D. L. A. O.		D. L. A. T. K.		Long. from Gr.		Latitude	
	N	S	W	E	A.	T.K.	A.	O.
	′	′	′	′	° ′	° ′	° ′	° ′
—	–	–	–	3	—	28. 2	31. 3	
—	–	–	–	–	14. 7			
—	–	–	–	–	—	2.19		
—	–	–	–	–	—	7.22		
—	16							
—	–	–	–	–	—	19. 5		
—	–	–	–	–	21.16			
—	–	–	–	–	—	—	36.20	
—	–	–	–	–	—	—	33.58	
—	–	–	–	–	—	—	29.17	
—	–	–	–	–	—	—	28.23	
—	5							
—	–	4						
—	–	–	–	–	—	—	1.32	
							N	
—	–	–	–	–	—	—	0.28	
—	–	–	–	–	—	—	0.28	
—	–	–	–	–	—	—	0.14	
—	–	–	–	–	—	—	0.28	
—	–	–	–	–	—	—	0.40	
—	–	–	–	–	86. 8			
—	–	–	–	–	86. 2			

Regiſter of the Dip in His Majeſty's Sloop

N. B. The ſhip having an iron tiller, and much iron about the after part, it was found, the obſervations taken in were not conſiſtent or meriting confidence. From *Anjengo* they were all taken on the binnacle, which ſeemed to b ſit place in the ſhip.

1776		Lat.	Long.	Magnetical Variation Az.	Magnetical Variation Amp.	South Dip Face E.	South Dip Face W	South Dip MD.	South Dip C.D.	
		° N,	° E,	° W′	° W′	°	°	°	°	
Oct. 14	Aſhore at *Trinquemalé* on Ceyloan.	8.32	81.30			3.6	3.6	3.6	4.5	
28	At anchor 10 fath. ſand and ſhells, *Anjengo* Road.	8.41	76.54	1.12*	1.13*	3.4	3.4	3.4	4.3	Very ſteady.
30		9.58	75.4			1.6	1.6	1.6	2.5	Pretty ſteady.
31		9.54	74.24	1.3*	0.53*	2.1	2.1	2.1	3.	Ditto.
Nov. 1	Off *Kalpeny.* Lacadivé Iſls	9.57	73.35	1.25*		1.7	1.7	1.7	2.6	Not very ſteady.
2	Off *Scheulpar.*	9.59	72.30			1.5	1.5	1.5	2.4	Pretty ſteady.
3		9.38	71.18			2.7	2.7	2.7	3.6	Ditto.
4		9.49	70.26	1.30*		3.2	3.2	3.2	4.1	Ditto.
5		9.53	69.11	2.12*	1.54*	3.	3.	3.	3.7	Ditto.
6		9.55	67.35			3.	3.	3.	3.7	Not very ſteady.
7		10.43	65.30	4.0* *4.4	4.3* *4.18	1.4	1.4	1.4	2.3	Ditto.
8		11.57	63.22	4.23*		ND. 0.4	ND. 0.4	ND. 0.4	0.3	Not ſteady, l when moſt at
9		12.45	60.34	5.15* *5.37		3.	3.	3.	ND. 2.1	Very unſteady.
10		12.59	57.21	6.0* *7.4	6.6*	4.	4.	4.	3.1	Pretty ſteady.
11		13.29	55.12	7.30* *8.24	7.54*	5	5.	5.	4.1	Ditto.
12	Off *Socotra.*	13.16	52.55	7.57*	8.15*	5.4	5.4	5.4	4.5	Ditto.
13		13.28	50.58	9.20* *8.59	8.58* *9.0	5.6	6.6	6.2	5.3	Very ſteady.
14	In ſight of *Coaſt* of *Arabia.*	13.51	49.37	9.35*	9.32*	7.2	8.6	8.	7.1	Quite ſteady.
15	Ditto.	13.37	48.33	9.1* *8.46	9.30* *9.30	8.	9.	8.4	7.5	Ditto.

Sloop of War The Swallow, *Captain* JOHN ALEXANDER PANTON.

				Magnetical				
				Variation		North Dip		
						Face		
1776		Lat.	Long.	Az.	Amp.	E.	W.	MD.
		° ′	° ′	° ′	° ′	°	°	°
Nov. 16	In sight of *Coast* of *Arabia.*	12.54	47. 4	9.31* *10.38	9.39* *10.35	6.2	7.2	6.6
17	*Cape Aden* in sight.	12.41	45.25	*11.25	*11.30	6.2	7.2	6.6
18		12.38	[44. 5]	11. 3* *11.14	11. 5* *11.18	7.2	8.2	7.6
20	At anchor at *Mocha.*	13.22	44.10	11.35*	11.22*	8.6	9.6	9.2
21	Ditto.	13.22	44.10		11. 2*	8.4	9.4	9.
	Ashore at the *Company's factory.*	13.20	44.11			9.2	9.6	9.4
22	In sight of *Gebel Zeker.*	14.24	43.35		11.11*	12.4	12.4	12.4
23	In sight of *Gebel Tar.*	15.29	43.12	13.10* *13.14	12.50*	14.2	14.2	14.2
24	Ditto.	16. 2	42.49	14. 3* *12.57	13.53*	15.6	15.6	15.6
25		16.24	42.22	14. 2* *13.31	14.10*	16.6	16.6	16.6
26		17. 5	41 54	13.44*	13.50*	19.1	19.1	19.1
27		18.14	41. 0	13 54*	13.58*	20.6	21.	20.7
28		19.36	40 30	13.12* *12.56	13.19* *12.42	24.2	24.6	24.4
29	Off *Judda.*	20 59	39.56	12.52*	12.59*	26.7	26.7	26.7
30		21.43	39. 3		12.49*	29.6	29.6	29 6
Dec. 1	In sight of *Coast* of *Abyssinia.*	21 56	37.57				about	30.
2		22.44	38.24			32.6	32.6	32.6
3		22.46	38.11			32.	32.	32.
4		22.54	37.44			32.4	32.4	32.4
6	At anchor on *Coast* of *Arabia.*	24.16	38.29			34.6	34.6	34 6
7	Off *Coast* of *Arabia.*	24.17	38.21	14.52*	15. 0*			

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	rth Dip		
7.	MD.	C.D.	
	°	°	
.2	6.6	5.7	Pretty ſteady.
.2	6.6	5.7	Ditto.
.2	7.6	6.7	Ditto.
.6	9.2	8.3	Ditto.
.4	9.	8.1	Not ſteady, much wind.
.6	9.4	8.5	
.4	12.4	11.5	Pretty ſteady.
.2	14.2	13 3	Very ſteady.
.6	15.6	14.7	Ditto.
.6	16.6	15.7	Ditto.
.1	19.1	18.2	Ditto.
.	20.7	20.	Pretty ſteady.
.6	24.4	23.5	Ditto.
.7	26.7	26.	Ditto.
.6	29 6	28.7	Very unſteady, much wind and pitching.
u	30.		Very unſteady.
6	32.6	32.	Not very ſteady.
	32.	31.2	Pretty ſteady.
4	32.4	31.6	Not very ſteady.
6	34 6	34.	Pretty ſteady.

1776		Lat.	Long.	Magnetical Variation Az.	Magnetical Variation Amp.	South Dip Face E.	South Dip Face W.	MD.	C.D.	
		° ′	° ′	°E ′	°E ′	°	°	°	°	
Dec. 8	Aſhore on a *ſmall iſland* on *Coaſt* of *Arabia.*	24.17	38.30			35.	35.	35.	34.2	Much wind.
9	At anchor at *Bareedy.*	24.16½	38.30		14. 1*	35.	35.	35.	34.2	Pretty ſteady.
10					13 50*	35.	35.2	35.1	34.3	Very ſteady.
11		24.16¾	38.30		13.50*	35.	35.	35.	34.2	Not very ſteady, good deal of wind.
14						35.2	35.2	35.2	34.4	Very ſteady.
15		24.19	38.18			35.	35.	35.	34.2	Not ſteady, ſwell from S^d^.
17		24.25	36.30			35.	36.	35.4	34.6	Much motion, with wind.
19		25. 4	36.10	*11.48	*11.41	36.2	36.2	36.2	35.4	Pretty ſteady.
20		25.45	36.26	11.30*	11.40*	38.	38.	38.	37.2	Not very ſteady.
21		26. 9	36.11			38.4	38.4	38.4	37.6	Pretty ſteady.
22		26.25	36. 1	12.15*	12. 5* *12.10	38.6	39.	38.7	38.1	Extremely ſteady.
23		26.55	35.38	12.58*	12.46*	39.7	40.7	40.3	39.5	Very ſteady.
25	In ſight of *Ras Mahomet.*	27.36					ab^t^	42.		Very unſteady, much wind
26		27.47			13.19*					
27		27.58			13.29*					
28		28. 4				42.	42.	42.	41.2	Pretty ſteady.
29	At anchor off *Tor.*	28.16				42.2	42.2	42.2	41.4	Ditto, a little ſwell.

Aſtronomical Obſerv

	Long. from Greenwich. D. ☾ T.K.	☾	O.	S.	E. D.	
	°′ W	° ′ ″				
Nov. 1	.22	73.31.30	⊙	6	33	*Kalpeny* bearing N.
4		70.26.	⊙	5	15	
6	E .30	67. 5.	⊙	5	13	
7	W .22	65.52.	⊙	4	6	
15	E 1.22	47.11.	⊙	6	20	
16	.50	46.14.	⊙	5	28	

	Long. from Greenwich. D. ☽ T.K.	☾	O.	S.	E. D.	
	°E	° ′ ″				
Nov. 19		44. 8.18	⊙	5	14	At anchor
20		44.16.	⊙	5	8	20th. Obſ glaſs, a *Per*
21		44. 6.	*A	3	15	
24	.21	42.28.	*A	5	13	W
29	1. 9	38.47.	*A	5	33	
Dec. 2	.35	37.49.	⊙	7	20	Ecl
3	.38	37.34.	⊙	5	15	

of War The Swallow, *Captain* JOHN ALEXANDER PANTON.

1777			Lat.	Long.	Magnetical Variation. Az.	Magnetical Variation. Amp.	South Dip Face E.	South Dip Face W.	South Dip MD.	South Dip C.D.	
			° ′	° ′	°E ′	′E °	°	°	°	°	
Jan.	2	At anchor at 5 fath. on *Coast* of *Africa*	29.12				43.6	44.	43.7	43.2	Fresh wind ar of motion.
	3		29.35			12.50*	46.	46.	46.	45.3	Ditto.
	4	Off *Suez.*	29.51	32.12			45.2	45.6	45.4	44.7	Perfectly steady.
	5	At anchor off *Suez.* N. Lat. obs. 29.58.12	29.58	32.15			45.6	45.6	45.6	45.1	
	6	Ditto. 29.58. 1	29.58				45.2	45.2	45.2	44.5	Very steady.
	7	Ditto.					45.2	45.2	45.2	44.5	
		Changed the poles, *unmarked end* dips,		–	–	–	43.6	43.3	43.4	44.	A little wind.
		Rechanged the poles, *marked end* dips,		–	–	–	44 4	44.4	44.4	44.	Ditto.
	8	At anchor off *Suez.* 29.58.25	29.58				44.5	44.5	44.5	44.	Perfectly steady.
	9	Ditto.					45 5	45.7	45.6	45.1	Ditto.
	10	Ditto.	29.58								
		Suez 29.58.10	30. 2	32.16							

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Observations in The Swallow.

t anchor in *Mocha Road.*

oth. Observed an immersion of 1st sat. of Jupiter with my glass, a good deal of wind and ship not very still,

Per watch — —	11. 0.30
Watch slower than apparent time	1.52.19
	12.52.49
Eclipse *per* naut. alm. —	9.56.48
	2.56. 1 = 44° 0′ 15″

	Long. from Greenwich. D. ☾ T.K.	☾	O.S.	E.D.	
	°E ′	° ′ ″			
Dec. 6	.29	37 50.	⊙ 3	3	
1777 Jan. 4		32.12.	⊙ 3	10	Off *Suez.*
		32.11.	⊙ 5	10	
5		32.42.	⊙ 5	8	At anchor in *Suez Road.*
6		31.47.	⊙ 5	14	
		32.21.	⊙ 5	24	

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:z *Read.*

XIX. *Journal of a Voyage to* The East Indies, *in the Ship* Grenville, *Captain* Burnet Abercrombie, *in the Year* 1775. *By* Alexander Dalrymple, *Esq. F. R. S. Communicated by the Honourable* Henry Cavendish, *F. R. S.*

Read January 29, 1778.

EXPLANATION OF THE COLUMNS.

1st, THE *date*[a].

2d, The *height* of the *thermometer*, according to FAHRENHEIT's scale. This thermometer belonged to Mr. RUSSELL, and hung in the open air in the balcony.

3d, including four columns, contains the *register* of the *marine barometers*, all of which, as well as the thermometers, were made by NAIRNE and BLUNT: those marked R and D are quicksilver, of the kind usually made by them. That marked S is compounded of quicksilver, and of a lighter fluid, for the purpose of making the alterations more visible, which is a very great convenience at sea; a quicksilver thermometer being fixed to it for the sake of correcting its height, the heat by which is set down in the column marked Th. next to that marked S.

4th, The *weather* and *winds* in four lines; 1st line from noon to 6 P.M.; 2d, from 6 P.M. to midnight; 3d, from midnight to 6 A.M.; 4th, from 6 A.M. to noon.

In the column of *weather*, f. denotes *fair*; sq. *squally*; c. *cloudy*; h. *hazy*; r. *rain*; hr. *hard rain*; sr. *small rain*; dr. r. *drizling rain*; sh. *showers*; th. *thunder*; l. *lightning*.

It is proper to remark, that the *winds* are set down according to the *compass*, without any allowance for the *Variation*.

5th in 2, The *difference* between the daily alteration of *latitude* by *account* and *observation*; N. denoting that the *observation* was to the *Northward* of the *account*; S. that it was to the *Southward*[b].

(a) Here, for want of room, the day of the month only is expressed; but in the original journal the days of the week, and of the Moon, are also inserted.

(b) Next to these columns in the original journal are the following, which are left out here only for want of room:
Correct course, lee-way variation &c. allowed, and the different courses reduced to one straight course.
Distance on that straight course.
Difference of latitude by account,
Difference of latitude by observation,
The departure,
The difference of longitude by account,
The difference of longitude by the time-keeper,
} in minutes of a degree.

6th in 2, The *difference* between the daily alteration of *longitude* by the *account* and *time-keeper*; W. denoting that the *longitude* by the *time-keeper* was to the *Westward* of *account*; E. that it was to the *Eastward*.

The result of those differences indicates the daily effect of current; however an error in the course sailed, or distance run by log, would make the current appear different from what it really was.

7th, The *longitude* from Greenwich, in seven columns.

1st, The longitude by *account*.

2d, The longitude by the *time-keeper*, which was made by ARNOLD, but without his late improvements.

3d, The *difference* between the *longitudes* deduced from *observations* of the *Moon* and from the *time-keeper uncorrected*; E. denoting the time-keeper to be to the East of ☾; W. denoting time-keeper to West of ☾. This, admitting the *time-keeper* not to be liable to any sudden changes in its rate of going, indicates the precision with which the observations of the Moon may be relied on, all circumstances of weather and of the ship's motion considered.

4th, The *longitude* by *observations* of the *Moon's distance* from the *Sun* or *Stars*, adjusted, by the log, to the noon nearest the time of observation.

5th, The number of *sights* or *distances observed*.

6th, The *object* whose *distance* from the *Moon* was *observed*; ☉ denoting the Sun; * the Star; S. Spica Virginis; R. Regulus; A. Aldebaran; At. Atair; P. Pollux; F. Fomalhaut; An. Antares.

7th, The *extreme difference* between the *highest* and *lowest observation*; expressed in minutes of a degree; when the *seconds* amount to *more* than 30, the next minute *above* is taken, *otherwise* the next minute *below*.

8th, The *latitude* in two columns:

1st, The latitude by *account*, carried on from the *land*, in the same manner as the *longitude* by *account*.

2d,

2d, The latitude by *observation*; and where the *latitude* could not be had by *observation*, it is deduced by *account* from the *last observation*, in which case it is included within [ ].

9th, The *correct longitude* from Greenwich deduced from the *time-keeper corrected* by the *sight* of *lands*, whereof the *longitudes* are known, and by *observations* of the *Moon*, taking a *mean* of the several observations of the *Moon* made within a short period of each other. The *error* of the *time-keeper*, between the *longitude corrected* by *sight of land* or *observations of* the *Moon*, is supposed to have arisen by the *time-keeper* having altered its rate of going *uniformly* between these observations; and the *intermediate longitudes* are determined by the *time-keeper* on this supposition. Where no observations of the *time* were made, it is deduced by the account from the *last* observation of the *time*, and is then included within [ ].

10th, The *magnetical observations* of the *variation* and *dip*, in seven columns.

1st, 2d, The variation by azimuth, amplitude, * *before*, denoting the observation to have been in the *morning*; * *after*, denoting the observation to have been in the *evening*. The *variation* was observed by the officers with the *compasses* belonging to the ship.

3d, The *dip* with the *face* of the *instrument* to the East.

4th, Ditto, ditto, ditto, West.

5th, The *mean dip* of the foregoing observations.

6th, The *mean corrected*, or what is *supposed* to be the *true dip*.

7th, The *circumstances* under which the *observations* of the *dip* were made.

12th, The *miles* run by *log*.

The *dip* was observed with a *dipping-needle* belonging to the hon. Mr. CAVENDISH, made by SISSON.

The following *remarks* on the *dipping-needle* and *observations* are by Mr. CAVENDISH.

The ends of the axis of the dipping-needle are made conical, and turn in conical holes of bell-metal, in the manner of Mr. LORIMER's needle, described in Phil. Transf. vol. LXV. p. 79. The dip was constantly observed both with the face of the instrument to the East and to the West, and the poles were changed twice during the voyage, in order to see whether the needle continued well balanced. The use of this method of observing is explained in Phil. Transf. vol. LXVI. p. 396.

The mean dip corrected is what is supposed to be the *true dip*. The foundation of this correction is as follows.

By the observations on July 12th, when the poles were changed, it appears, that the marked end of the needle was too heavy, so as to make that end point $\frac{15}{16}$ths of a degree too low at that place; and therefore, if we suppose that the force of magnetism is equally strong in all parts of the earth, the error produced thereby in other places should be to $\frac{15}{16}$ths of a degree as the cosine of the dip to the radius. The observations also made when the poles were changed at Suez, agree well enough with this supposition: therefore, as in all the observations the marked end of the needle pointed to the North, the mean dip in all that part of the voyage subsequent to July 12th is corrected by subtracting

$\frac{4}{8}$, $\frac{5}{8}$, $\frac{6}{8}$, $\frac{7}{8}$ of a degree from the mean dip, when the mean dip is between	63° and 52°		North, and adding as much when the dip is as much South.
	52	43	
	43	30	
	30	0	

But as before the needle left London, changing the poles was found to make very little difference in the dip, the correction in the preceding part of the voyage is made not so great, *videlicet*;

$\frac{1}{8}$, $\frac{2}{8}$, $\frac{3}{8}$, $\frac{4}{8}$, $\frac{5}{8}$, $\frac{6}{8}$, $\frac{7}{8}$ of a degree is subtracted from the mean dip, when that dip is between	70° and 62°	
	62	52
	52	43
	43	35
	35	30
	30	25
	25	0

The dip was observed on board the Grenville at Deptford, after her return, in the same part of the ship in which the observations were usually made, and was found not to differ more than 5′ from that observed with the same needle in a pretty large garden in London, about five miles distant; so that the observations on board the Grenville seem to be not much influenced by the iron-work of the ship.

1775	Th.	Marine Barometer R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude from Greenwich A.	TK.	D. ☽ T.K.	☽	S.	O.	E D.	Latitude A.	O.	Cor. Long.	Magnetical Variation. Az.	Amp.	Dip Face E.	W.	MD.	C.D.		ML.	N. B. Log-line 51 feet to 29″½.
	°	In.Dec.	In.Dec	°	In.Dec.		′	′	′	′	°W′	°W′	′W	°W′			′	°N′	°N′	°W′	°W′	′W°	°	°	°	°			
Apr. 28						f. h. f. SE. ESE. S by E. E by S. ESE. SE.													49.43				72.4	73.6	73.1	73.1			Between Ram-head and the Lizard.
29						f.h. SE.V.WbS.WSW.SWbW.SW.WSW.V.C.V.WSW.													49.50	5.35			72.4	73.7	73.1	73.1			Lizard Point E½N to ENE½N. 7 or 8 leagues off shore.
30			30.2½	55		h. r. SW by S. WSW W. h. WNW. NW by W. h. r. WNW. C. NNW. r. f. NNW. NW by N. NW.		6		7	6.19	6.12						49.25	49.19	6.12			73.	74.	73.4	73.4	Great swell.	37	At 1 P.M the Lizard Point bore by compass E½N. Variation allowed ENE½N 7 leagues. The Land's End N by E to NbyW. Take a departure from the Lizard in 49° 57′ 30″ N lat. Long. 5° 15′ W. First and middle part, lights airs and calm. Latter, pleasant breezes. Great swell from W.
May 1	59		30.4½	61		f. NW by N. NW by W. WNW. f. NW by W. NW. f. WNW. W by N. f. W. WSW. W by S.		11		14	6.40	6.19						48.42	48.25	6.19			72.	73.4	72.6	72.6		51	Light breezes; great swell from Westward.
2	57			56		h. fr. WSW. SW by W. hr. r. SW by S. SW. W by S. r. h. fr. W. WNW. h. r. f. h. NW by W. WNW. NW by W.		9	33		7.22	7.34						48.51	48.43	7.34			72.4	73.	72.6	72.6	Great swell.	47	Major part light breezes; great swell from Westward.
3	54¾		30.0½	54		c. NW by N. C. c. C. c. C. E. c. h. E. E by N.					7.29							48.34	[48.26]	[7.41]			72.	72.4	72.2	72.2		18	Mostly calm. A very large swell from Westward.
4	56½		30.0¾	56¼		h. ENE. h. ENE. h. c. ENE. V. c. NE. V. C.		31	9		7.57	8.18						47.51	47.20	8.18			71.4	72.6	72.1	72.1	Very steady.	48	Light breezes and a great swell.
5	57½		30.0	57½		h. C. W by S. c. h. W. WSW. SW. h. r. SW. WSW. h. fr. c. W by S. WSW. NE by N.		13		7	7.13	7.27						46.56	46.12	7.27			71.	72.4	71.6	71.6	Great motion.	68	First part, calm. Middle, an increasing breeze from Westward, with rain. Latter, a fine breeze from the Northward.
6	55¾		30.2	55½		h. N. NNE. h. NNE. NE. ENE. h. c. ENE. ESE. E by N. c. f. E by N. E by S.		19		12	8.36	8.38						45.58	44.55	8.38		18.42*	71.	72.	71.4	71.4	Good deal of motion.	83	Mostly light breezes, with a swell from NW.
7	57		30.2¾	56½		f. ESE. f. E. f. E. f. E. E by N. ENE.		21	4		10.13	10.19						44.14	42.50	10.19			69.6	71.	70.3	70.3	Very steady.	126	An increasing gale from the Eastward.
8	61¼		30.2¾	60¼		h. NE by E. NNE. h. NNE. h. NNE. h. NNE. NE.		39	13		10.22	10.43	3 14	10.40 10.29	4 4	⊙	27 46	41.52	40. 9	10.43			68.4	69.2	68.7	68.6	Ditto.	142 620	First part, fresh gales. Latter, moderate.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D.L. A.O. N	D.L. A.O. S	D.L. A. T.K. W	D.L. A. T.K. E	Longitude from Greenwich A.	Longitude from Greenwich T.K.	Longitude from Greenwich D. ¢ T.K.	Longitude from Greenwich ¢	S.	O.	E. D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation Az.	Magnetical Variation Amp.	Magnetical Dip Face E.	Magnetical Dip Face W.	Magnetical Dip MD.	Magnetical Dip C.D.		ML.	
	°	In. Dec.	In. Dec.	°	In. Dec.		′	′	′	′	° ′	° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		620	
May 9	67		30.1¼	67		f. NNE. f. h. NNE. h. NNE. E by S. h. E by S. V.		11		13	W 10.34	W 10.42	E 13	W 10.55	3	☉	36	N 40.17	N 38.24	W 10.42	W 18.0*	W 17.43*	67.6	69.	68.3	68.2	Very steady.	96	Decreasing breezes. Changed log-line 48 feet to 29¾.
10	68		30.0½	67¾		h. ENE. NE. V. h. V. N by E. h. N. V. h. V. SE by E. ESE. SE.		4	19		11.7	11.34						39.26	37.33	11.34	20 38*	18.36*	67.2	68.4	67.7	67.6	Good deal of motion.	55	Most part light airs. Several small land birds; two of them, supposed nightingales came on board, very tired; also saw a hawk.
11						f. SE by S. C. f. C. ENE. E. f. h. E. NE by E. C. h. V. C.		10	9		11.28	12.4						39. 3	37.0	12. 4	20. 9*	19 57*	66.6	67.6	67.2	67.1	Ship yawing.	29	Light airs of wind Easterly, with calms. Some swallows and other land birds, who seem very tired. In the afternoon, during the calm, when the ship's head was to the Southwestward, there was, for a little time, a counter current visible; it made like a wake on the ship's larboard beam, as if she was going broadside foremost.
12	67½		30.3¾	67½		h. NW by W. WNW. NW. h. e. NW by W. f. h. V. NW by W. h. NW by W. C. W by N. W.		16		4	11.52	12.24						38.28	36. 9	12.24			65.6	67.2	66.4	66.3	Ditto, needle very steady.	41	Light airs of wind throughout. P.M. saw two three-mast vessels with latine sails; they were supposed to be Barbary cruizers, but did not come near enough to let us know what they were. Some swallows about the ship.
13	66¼	30.1	30.0¾	66	30.1	f. W by S. WNW. f. h. WNW. NW by W. NW. h. NW. NW by N. c. NNE. N.		21	9		12.35	13.16						37.46	35. 6	13.16	20.17*	20.38*	66.	67.	66.4	66.3	Ditto, needle very unsteady, bad observation.	62	An increasing breeze from the Northward. In the morning there were many petrils in the ship's wake: they continued throughout the day.
14	65	30.2½	30.2¼	65¼	30.2½	sq. h. NE by N. h. NNE. N. sq. c. N. c. N. NNE.		20		8	15.0	15.33						36.36	33.30	15.33	19.28*	19.16*	64.6	65.6	65.2	65.1		138	Fresh breezes, with some squalls. At noon saw Porto Santo from the mast-head, W by S. per compass.
15	67¾		30.2	67½		h. NNE. f. c. NNE. NE by N. sq. c. NE by N. NE. W by N. c. WNW. C. W.		25	14		15.59	16.46						35.50	[32.24]	16.46			64.2	65.6	65.	64.7	Very steady.	84	In *Funchal* road. Major SEARS informed us, that Mr. SEARL, in consequence of our request, tried the therm. for 30′ in a cool cellar, and found it 68°. N. B. Captain ALCOCK informed me, he observed the therm. on May 14, 1776, at 6 A.M. at *Funchal* 68°, and in the cellar 61°: and Mr. SEARL wrote to Mr. CAVENDISH, that on the 16th of May the therm. which stood at 69°, was carried down at 1 P.M. to a cellar, where it remained till 4 o'clock, and then was found to be at 62°, so that Major SEARS's account was probably erroneous.
16	65½	30.1½	30.1½	65½	30.0½	c. W. c. W. V. NE by E. c. NE by E. E by N. h. E by N.	2			7	By acct from Madeira in [16.50] 16 56	16.41						31.18	31.20	16.41			63.2	64.6	64.	63.7		67	First part, light airs. Middle and latter, pleasant breezes and smooth weather; several boats came off from *Funchal*
17	67½		30.1¾	67¼		h. NE. h. e. NE by E. c. E by N. E by S. c. E by N. ESE.		18	2		17.3	16.50						29 57	29.41	16.50			62.2	63.6	63.	62.7		81 1273	These 24 hours pleasant breeze from Eastward.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D.L. A.O. N	D.L. A.O. S	D.L. T.K. W	D.L. T.K. E	Longitude from Greenwich A.	Longitude from Greenwich TK.	Longitude from Greenwich D.☽ T.K.	Longitude from Greenwich ☽	S.	☉	E D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation. Az.	Magnetical Variation. Amp.	Magnetical Dip Face E.	Magnetical Dip Face W.	Magnetical Dip MD.	Magnetical Dip C.D.		ML.	T.S. denotes the temperature of the sea-water taken up in a bucket about noon, and the thermometer immersed in this bucket for some minutes.
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′		° ′ W	° ′ W	′ W	° ′ W			′	°N′	° ′ N	° ′ W	° ′ W	′ ° W	°	°	°	°		1273	
May 18	69	30.2	30.1¼	68½	30.2	h. ENE. h. ENE. E. h. E. ENE. h. E. ENE.		15		10	17.9	16.46						29. 4	28.33	16.46	*18.23		61.2	62.6	62.	61.6		53	Light breezes and smooth water At noon, Peak of Tenerif S 50° E.
19	68	30.2¼	30.2¼	67¼	30.2¼	h. E by N. h. NE by N. h.c. N by W. C. N by W. NNE. c. f. NNE.		6	1		17.17	16.55						27.53	27.16	16.55	16.53* *16.39	17. 6*	60.2	61.2	60.6	60.4		74	Pleasant breezes from the Eastward. At noon, Peak of Tenerif (variation allowed) bore N 24° 30′ E, which bearing, and the difference of latitude places it 27′ to the Eastward of our situation at noon, when in 16° 55′ long. by time-keeper, and consequently by time k. 16 28 is the longitude of Peak of Tenerif, only 4′ less than Pere FEUILLE makes it; but, by the observations of the Moon, on the 21st and following days, it appears, the ship was 1° farther West than the time-keeper represented, which difference arose since the 9th of May, if the Lunar observations were to be relied on.
20	68	30.1¾	30.1½	68	30.1¾	c. NNE. NE. c. NE. N by E. NE by N. N by E. c. N by E. NNE. c. NNE.		24		3	17.42	17.17						26.46	25.45	17.20	16.37* 15.42*	16.17* 15.42*	59.2	60.2	59.6	59.4	Very steady.	70	Light breezes and smooth water throughout. Several petrills in the wake.
21	68½	30.1¾	30.1	68	30.1	f.c. NE by N. N by E. c. N by E. N by W. c. f. N by W. N by E. f. N by E. NNE.		1	4		18.18	17.57	57	18.54	4	⊙	29	25. 5	24. 3	18. 3		15 36*	58.2	59.2	58.6	58.4		106	Pleasant trade. In Captain EKEBERG's chart there being soundings laid down not far to the Eastward of our situation, sounded at 8 P.M. but had no ground 40 fath. Several petrills in the wake of ship.
22	70	30.1½	30.1¾	70¼	30.1½	f. N. f.c. N. NNE. c. NNE. c. NNE. NE by N. NE.		18			18.49	18.28	66	19.34	3	⊙	28	23.43	22.25	18.37	15.13*	*15. 2	56.4	57.4	57.	56.6		87	Light breezes with smooth water throughout. Many petrills. N.B. There was apparently an error in this day's long. by time-keeper. The succeeding days diff. long. was as much less as this day's was more than account. I have here corrected it as conformable to the Lunar observations. T.S. 69°.
23	68	30.2	30.1¼	68	30.2	f. NE. NE by N. f. NE by N. f. NE by N. f. NE by N. NE.				1	19.28	19.6	41 65	19 47 20.11	4 3	⊙ ⊙	47 71	21.54	[20.36]	19.18	14 35* *13. 9	*13. 7	54.	55.2	54.5	54.3		115	In the evening, the water appeared of a muddy green, like soundings; but did not found. An increasing trade with fair weather, the water continuing of same colour. T.S. 69°.
24	68¼	30 1	30.0½	68¼	30.0¾	f. NE. NE by N. f. NE by N. f.c. NE by N. c. h. NE by N.	14		8		19.21	19 7	79	20.26	3	⊙	37	19.21	17.49	19.22	13.56*	13.55*	51.	52.4	51.6	51.3	Much motion.	153	These 24 hours a fresh trade, and mostly fair weather, the water remaining the same as before. T.S. 68½.
25	71½	30.0	29.9½	72	29.9½	h. N by E. h. N by E. h. N by E. h. NNE.		1	4		18.33	18.23						17. 1	15.28	18.41	13.18*	12.32*	48.6	49.4	49.1	48.6		150	Fresh trade and hazy weather. In the afternoon the sea remarkably confused, breaking different ways. Sounded in the morning, but had no ground 40 fath. In the morning the water appeared blue again. T.S. 71°.
26	76½	30.0½	30.0	76½	30 0	h. NE by N. h. V. WNW. NW. h. NW. V. NNE. h. c. NNE. E by S. ESE.		8		2	18.37	18.25						16. 3	14.22	18.46			46.4	48.	47.2	46.7	Very steady.	59	Light breezes chiefly. In the night, no ground 70 fath. There were many blubbers in the ship's wake, which made a very luminous appearance: they seemed in shape like a sausage about 8 or 9 inches long. In the day, sea was covered with Portugueze men of war, of which took up several; also some pilot-fish and skip-jacks. T.S. 74°.
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1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D.L. A.O. N	D.L. A.O. S	D.L. A.T.K. W	D.L. A.T.K. E	Longitude from Greenwich A.	Longitude from Greenwich T.K.	Longitude from Greenwich D. ¢ T.K.	Longitude from Greenwich ¢	S.	O.	E. D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation Az.	Magnetical Variation Amp.	Magnetical Dip Face E.	Magnetical Dip Face W.	Magnetical Dip MD.	Magnetical Dip C.D.		ML.	
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′	° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		2140	
May 27	76¼	30.0¼	30.0	76	30.0	h. SE by E. h. c. V. E by N. c. h. E by N. V. h. V. NNW. NE.	7			4	W 18.18	W 18. 2	E	W				N 15.32	N 13.48	W 18.26	W	W	46.	46.4	46.2	45.7		46	Light airs of wind, variable, with very damp weather. In the night, no ground 40 fath. Many fish about the ship; some under the quarter, darting through the water, and making streaks of light in various directions, had a fine appearance. T.S. 75°.
28	78½	30.0	30.0	78½	30.0	f. NNE. N. f. N. NW by N. f. h. NW by N. h. NW by N. WNW.	1			3	17.26	17. 7						14.28	12.45	17.34		13. 0*	44 4	45.	44.6	44.3	Very steady.	82	Light breezes throughout. In the night, lightning to the Eastward. Many luminous blubbers and fish about the ship in the night. Passed several turtle. Had ground at 11 A.M. 32 fath. coarse sand, with black specks and shells. At noon, 30 fath. coarse sand and flat coral. T.S. 75°¾.
29	80	30.1	30.1¼	80	30.1	h. W. h. C. SW. SW by W. h. SW by W. C. S. V. h. SW. SW by W. ESE. ENE.		2		8	17.16	16.49						13.57	12.12	17.19	12.37*	12.44*	43 6	44.	43.7	43 4		37	First and latter, light breezes. Middle, calm. Great many fish about the ship, and in the morning vast flocks of birds. Soundings, sand of various kinds from 28 to 17½ fath. at 8 A.M.; at 9 A.M. 21 fath. blue mud; and at 11 A.M. no ground 35 fath. T.S. 77°.
30	77½	30.0¼	30.0¼	77	30.0¼	h. ENE. NE. V. W by S. h. SW by W. C. h. C. W. C. h. NW by N. NNW. N by W.	2			3	17. 9	16.39						13.26	11.43	17.12		12.36*	42.6	43.4	43.1	42.6	Very steady.	32	Light airs and calm. At 5 P.M. 56 fath. green mud. At midnight, 45 fath. blue mud. In the night, the water very luminous when put in motion, and many shoals of fish looking like breakers. A.M. a turtle passed; vast flocks of sea birds. At noon, the sea covered with Portuguese men of war, like the ground with leaves in Oct. 23 f. blue mud. T.S. 76°¼.
31	80	30.0½	30.0	80	30.0	f. NNW. f. sq. hr. NW. NW by W. E. sq. hr. c. h. E. C. ENE. E by S. h. f. NE.	1		10		17. 4	16.44						12.22	10.40	17.20	12.24*	12.42*	41.6	42.4	42.1	41.5		69	Most part pleasant land and sea breezes. At midnight, a hard squall from the land: it was preceded by great deal of lightning over the land, and long threatning before the squall came off. It rose in a dark black cloud, with a white streak like a bow under it, and below this very dark. It came off very hard, and raised the spray of the sea in a foam. P.M. Soundings, 25 to 21 fath. sand. A.M. No ground 60 and 40 fath. T.S. 80°.
June 1	82½	30.1	30.1	82½	30.1	f. NNE. N. NNW. f. SW by W. W. f. c. h. V. C. h. c. sq. h. NW. SE by E. SE.	10			10	16.51	16.11						11.40	10. 8	16.50	13. 7*	12.46*	41.	42.	41.4	41.	Very unsteady.	53	Major part, light breezes. P.M. No ground 40 to 80 fath.
2	82½	30.0¼	30.0¼	82½	30.0¼	h. SE. W. h. W. C. W. h. W. C. WNW. W by N h. W by N.	17				16.25	15.45						11.14	9 59	16.26	12.35*	12.31*	40.4	41.2	40 7	40.3	Not very good observation.	39	First and latter parts, pleasant breezes from Westward. The middle, calm, with hot sultry weather. At midnight, 80 fath. coarse black sand, with bits of coral. At noon, 26 fath. coarse brown sand. T. S. 81°.
3	82¼	30.0¼	30.0½	81¼	30.0½	h. NW. L. to E. sq. r. c. NW. NW by N. E. V. c. L. to E. V. S by W. V. E by S. ESE. h. f. E by S. E. ESE.		8		6	16. 6	15.20	35 62	15 55 16.22	3 3	⊙ ⊙	2 20	10.38	9.15	16.09	12.48*	12.55*	38.6	39.6	39.2	38.6	Very steady.	45	Major part, light airs. Many sharks about the ship; above a dozen in sight at once; caught one. P.M. Soundings 27 to 35 fath. At noon, no ground 88 fath. T.S. 80°¼.
4	81¼	30.0½	30.0½	80½	30.0½	f. SE. SSE. SE by S. SSE. S by E. c. L. all round, sq. SSE. S by E. S by W. sq. SSW. C. sq. c. C. NNW.	10			10	16. 2	15. 6						10.23	9.10	15.58			38.4	39.2	38.7	38 3		34	The first part, light breezes of wind from the Southward. The latter, mostly calm, with hot weather. In the evening, the clouds very remarkable; some appearing like dirty wool, and apparently very near all round the horizon; the sky above, in many places, a fine pink, and bluish grey beneath it. In the morning, many grampusses about the ship. At noon, ground 60 fath. T.S. 83°¾.
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1755	Th.	Marine Barometer, R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude from Greenwich A.	TK.	D. ☽ T.K.	☽	S.	C.	E. D.	Latitude A.	O.	Cor. Long.	Magnetical Variation Az.	Amp	Dip Face E.	W.	MD.	C.D.		ML.	
		In. Dec.	In. Dec.	°	In. Dec		′	′	′	′	° ′	° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		2577	
											W	W	E	W				N.	N.	W	W	W							
June 5	3[illegible] ¾	30.0¼	30.0½	80¼	30.0½	h. c. C. W by S. c. L. all r^d. r. W by S. WSW. V. NNW. r. h sq. and hr. sq. r. NNW. SE by E. E by S. V. h. V. S by E. SSE.	10			20	15.43	14.28						9.43	8.40	15.43			38.2	38.4	38.3	37.7		48	Mostly light breezes. Past 2 P.M. a hard squall, with great deal of thunder, lightning, and rain. P.M. a boat came on board from the Polly, a whaling vessel, from Boston in New England: the vessel was hull down when they came aboard. A.M. spoke with the Mary, Captain JONES, from Liverpool to Sierra Leone. P.M. 40 to 36 fath. coarse sand. A.M. no ground 55 fath. T.S. 83°¾.
6	83	30.0¾	30.0¼	83	30.0¾	f. C. V. f. L. to Eastw. SW by W. h sq. r. L. all r^d. r. c. E by S. SE. E. E by N. c. f. E by N. C. SSE. S by E.	11		8		15.41	14.34						9.12	8.20	15.53	*13.33		36.6	37.2	37.	36.4	Very steady.	38	Mostly light airs and calms. At midnight, a violent gust of wind came off: its violence did not continue above a minute or two; but brought much rain, and was attended with thunder and lightning. A.M. no ground 88 fath. T.S. 82°.
7	82½	30.1½	30.1¼	82¼	30.1¼	h. SE by S. S by E. C. h. c. V. SSE. SE by S. c. sq. S by W. V. C. sq. c. C. S by E. SSE. S.	11		19		15.41	14.53						8.56	8.15	16.16		12.28*	36.6	37.6	37.2	36.6		31	Light airs chiefly: a long swell from the SW. T.S. 82°¾.
8	83	30.1¼	30.1¼	83	30.1¼	c. hr. and L. to s.w. S. C. V. SW. sq. c. sq. SW. SW by W. SW. c. C. c. f. C.	23			12	15.22	14.22						8.33	8.15	15.49			36.6	37.6	37.2	36.6	Very unsteady, great swell, and no sail.	30	First, light airs. Middle, fresh breezes and squally. Latter, calm. At midnight, carried away the main and fore-top-mast by the badness of the rigging. Had, for some hours, a pretty fresh SW wind; but not enough to have endangered the top-masts had the rigging been good. At 11 got fore-top-mast up. T.S. 83°.
9	84	30.0½	30.0½	84	30.0½	h. C. h. L. to westw. C. h. c. C. W by S. c. W by S.		3		3	15.38	14.14						8.29	8. 8	15.46			36.4	37.6	37.1	36.5	Pretty steady.	6	Mostly calm, with swell from Southward. At 9 A.M. got up main-top-mast. T.S. 82°.
10	81¼	30.0½	30.0½	80¼	30.0	f. c. sq. r. W. NNE. sq. r. c. NNE. V. C. c. L. to E^d. hr. C. V. C. ENE. r. c. ENE. V. SW by W.	3		19		15.0	14.15	53	15.8	5	*S	48	8. 1	7.43	15.51			35.6	36.6	36.2	35.6	Very steady.	35	First, fair. Middle, squally, with hard rain. Latter, variable, with calms. T.S. 81°¾.
11	77¼	30.0½	30.0½	76½	30 0½	c. sq. r. SW. SW by S. c. f. c. sq. r. SW. sq. r. SSW. SW. WSW. hr. r. WSW. V.	30			24	14.19							7. 9	[7.14]	[14.53]			34.6	35.6	36.2	35.6	remarkably steady.	64	Cloudy and rainy, with a gentle breeze: great swell from Southw. T.S. 81°.
12	82	30.0¾	30.0¼	82	30.0¼	hr. V. SW. sr. r. c. SW. SW by S. SSW. c. r. SSW. C. V. c. C. V.					14.4	12.55	58	13.53	3	*S	39	6.53	7. 5	14.39			35.2	35.4	35.3	34.7	Very steady.	22	Calm and cloudy: great long swell from Southward. A.M. a very large shark was struck with the harpoon; but it broke the harpoon, and got off. Many fish and birds. T.S. 82°.
13	81½	30.0½	30.0½	81½	30.0½	c. WNW. NW. c. L. to westw. NW. c. NW. NW by N. c. th. L. to SW. V. NNE.				2	13.50	12.39	115	14.34	3	*S	15	6.25	6.37	14.27	13.18*		32.4 32.6	33.4 32.6	32.6	32.1	Tightened the screws.	31	Light airs and cloudy through. Many fish and birds. P.M. no ground 70 fath. A.M. hooked a shark. T.S. 81°¾.
																												2882	

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D. L. A. O. N	D. L. A. O. S	D. L. A. T. K. W	D. L. A. T. K. E	Longitude from Greenwich A.	Longitude from Greenwich T.K.	Longitude from Greenwich D. ☾ T.K.	Longitude from Greenwich ☾	S.	O.	E. D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation Az.	Magnetical Variation Amp.	Magnetical Dip Face E.	Magnetical Dip Face W.	Magnetical Dip MD.	Magnetical Dip C.D.	ML.	
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′ W	° ′ W	′ E	° ′ W				° ′ N	° ′ N	° ′ W	° ′ W	° ′ W	°	°	°	°	2882	
June 14	82¼	30.0¼	30.0¼	82¼	30.0	c. V. C. c. SW by S. SSW. c. SSW. SW. hr. c. r. c. C. V. S by E.	15		4		13.20	12.14	120	14.14	3	*Au.	48	6. 5	6.32	14. 6		13.28*	32.6	33.6	33.2	32.5	37	In the night, many fish. A.M. struck an albicore; it has from the back fin to the tail nine little yellow fins, and nine more such from the belly fin to the tail. Besides the fin on the back, it has another fin, composed of a thin membrane, with sharp prickly ribs; this fin it can strike, having a groove to receive it, so that there remains no projection or appearance of it. Light airs. No ground 65 to 70 fath. T.S. 81°¾.
15	83	30.0¼	30.0¼	82¾	30.0	h. S by W. S. SSW. h. f. SSW. c. r. c. SSW. SW. V. c. T. to s.e. V. SW by W. SSW. SW.	15			7	12.39	11.26						5.32	6.14	13.18		13.32*	32.	32.4	32.2	31.5	54	Light breezes, with a swell from the Southward. T.S. 82°.
16	82	30.0¼	30.0¼	82	30.0	c. fr. sq. r. SW. V. S by W. sq. L. to n.e. S by W. V. C. SW. SW by S. c. SW by S. C. c. r. c. V. C. V.	5				12.27							5.18	6. 5	[12.59]			31.6	32.	31.7	31.2	19	PM. many fish; but swimming very deep. A.M. caught three sharks. Most part light airs and calm with rain. T.S. 81°¾.
17	79½	30.0¾	30.0¾	78½	30.0¾	sq. r. V. S by W. sq. r. c. V. SSW. c. r. c. SSW. S. SW. c. hr. c. SW by W. WSW. SW by W.	7			24	11.58	10.21						4.55	5.49	12.13			30.	30.6	30.3	29.6	43	First part, squally, with rain and wind Southerly. The latter, light airs S.W. cloudy and rain. A.M. appearance of land to Eastward under the clouds, but very obscure, being thick and hazy weather. T.S. 81°.
18	80½	30.0¾	30.0¾	80½	30.0¾	c. SW by W. SW. C. W by N. sq. c. W by N. W by S. V. C. c. C. NE. c. NE. ENE.		7		5	11.44	10. 2						4.36	5.23	11.54			29.2	30.	29.5	28.7	24	Pleasant weather. A.M. some dolphins. Light airs of wind, variable with calms. T.S. 81°¾.
19	80½	30.0½	30.0½	80	30.0½	h. NNE. C. V. L. to nd. c. V. WSW. c. WSW. W by S. V. c. fr. c. V. C. SW by S.	5			1	11.29	9.46						4.15	5. 7	11.38	13.30*	13.50*	28.6	29.6	29.2	28.4	26	Light airs, with lightning and some thunder in the night. In the morning, it looked very black, but was not attended with any squall. T.S. 81°.
20	82	30.0¼	30.0¼	81	30.0¼	c. SW by S. SSW. SW by S. c. L. sq. r. c. SW by S. SSW. SW by S. SW. SSW. c. SSW. V. S by W. c. r. S by E. C. SE by S. V.	16			5	10.52	9. 4						3.49	4.57	10.56	14.23* *14.43	14.41*	28 6	29.6	29.2	28.4	46	Mostly light breezes and cloudy, with rain. I ascribe the error of this day's log partly to the course having made no allowance for lee-way. T.S. 81°.
21	79	30.0½	30.0½	79	30.0½	c. S by E. S. SSW. c. L. from n. to s.e. sq. r. SSW. SW by S. SSE. S. r. hr. S. hr. c. r. S by E. C.					10.31	8.46						3 45	[4.54]	10.38	14.40*		28.4	29.4	29.	28.2	44	First and middle parts, light breezes, with some squalls, and heavy rain. The latter, calm, with cloudy weather and rain. In the morning, at 8 P.M. saw the land, bearing E by S; leagues. Sounded 46 fath. mud; but there was the mark of rock on the arming of the lead. At 10 A.M. the extremes of the land from N by E¼E to E distance about 7 leagues. The N extreme I suppose is *Pomo Baixar* near *Sofes* river, and the Southern extreme supposed about *Barra*: There was a hill, visible inland, to the left, which was supposed to be that of *Bassa*. T.S. 81°.
22	80½	30.0¼	30.0¼	80½	30.0¼	hr. C. SSW. V. C. hr. C. ESE. V. hr. sq. hr. V. SSE. V. sq. r. V.	13		3	13	10.50	8.52						3.19	4.39	10.44			27.6	28.4	28.1	27.3	35	At Sun-set, the extremes N¾E to E¾S (per compass) distance off shore about 6 leagues. 43 fath. blue mud. Variable winds, with very much hard rain. T.S. 81°.
																											3210	

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D.L. A.O. N	D.L. A.O. S	D.L. A.T.K. W	D.L. A.T.K. E	Longitude from Greenwich A.	Longitude from Greenwich TK.	Longitude from Greenwich D.☽ T.K.	Longitude from Greenwich ☽	S.	O.	E. D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation. Az.	Magnetical Variation. Amp.	Magnetical Dip Face E.	Magnetical Dip Face W.	Magnetical Dip MD.	Magnetical Dip C.D.		M L.	
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′ W	° ′ W	′	° ′ W			′	° N′	° ′ N	° ′ W	° ′ W	′ ° W	°	°	°	°		3210	
June 23	82	30.0	29.9¾	81¼	30.0	r. c. SSE. S. S by W. c. sq. S by W. S. S by E. r. c. S by E. SSE. c. h. S. S by W. S.	12		1		11.13	9.16						3. 0	4.32	11. 6			28.	28.4	28.2	27.4	Very unsteady.	54	Moderate breezes. T.S. 81°.
24	80½	30.0	29.9¾	80	29.9¾	h. sq. r. S. S by W. SSW. sq. r. c. S by W. c. sq. c. S by W. c. sq. r. S by W. S.	3		3		11.42	9.48						2.53	4.28	11.37			28.4	29.4	29.	28.2		73	Most part a fresh gale from Southward, with squalls and rain. T.S. 81°.
25	77¼	30.0½	30.0½	76½	30.0	h. c. S. S by W. SSW. c. SSW. c. SSW. c. r. SSW. V. C. W by S.	21			52	11.16							2.35	[4.21]	[11.11]			27.4	27.6	27.5	26.7	Pretty steady.	58	Most part fresh breezes. At 8 P.M. Richard Jones, the surgeon's lad, fell over-board. Hove the ship to, and sent jolly boat and yawl in search of him; but they could not find him. No observation for latitude or time, not having one glimpse of the Sun all the forenoon. P.M. no ground 50 fath. T.S. 80°½.
26	80	30.0½	30.0¼	80½	30.0½	hr. c. sq. V. SSW. sq. r. SW by S. r. SW by S. S by W. SSW. r. c. S by W.					10. 2	7.40						2.23	4.16	9.26			26.4	27.4	27.	26.2		58	A fresh breeze with much rain. P.M. no ground 70 fath. T.S. 80°½.
27	80¼	30.0½	30.0½	80¼	30.0½	c. sq. SSW. SW by S. SSW. c. sq. SSW. S by W. sq. c. S by W. S. c. S. S by W. S.		24		44	10. 6	7. 0						2.13	3.42	8.45			25.4	26.	25.6	25.		73	Mostly fresh breezes. At 2 P.M. from mast-head *land*, making like islands, was seen bearing E by N=ENE½N, supposed Cape Palmas. P.M. no ground 70 fath. At 8 P.M. spoke with a French ship from *Bayonne* to the coast of *Angola*. T.S. 80°.
28	80¼	30.0¼	30.0¼	80¼	30.0¼	h. S. S by E. h. sq. f. c. S by E. sq. c. S. c. f. S. S by E.		13		2	11.10	8. 2						1.34	2.50	9.45	14.42* *14.11		24.4	25.2	24.7	24.		76	Fresh breeze throughout, and a large Southerly swell. T.S. 80°½.
29	79½	30.1	30.1	79	30.1	c. S. S by E. S. c. S by E. c. f. S by E. S. f. S by E.		20	39		12.18	9.48						1. 0	1.56	11.29	14.37* *13.44	14.25*	23.6	24.4	24.1	23.2	Very unsteady.	79	Fresh breeze throughout. P.M. cloudy. A.M. fair. T.S. 79°½.
30	78½	30.2	30.1½	78½	30.1	f. S by E. f. c. S by E. c. f. S by E. f. S by E. S.	1		77		13.21	12.8						0.14	1.11	13.48	13. 6* *12. 7		23.6	24.4	24.1	23.2	Pretty steady.	78	Fresh breezes with fair weather. P.M. many porpoises. Some bottle noses, and vast flocks of flying fish. A.M. a man of war bird. T.S. 76°½.
July 1	77½	30.1½	30.1½	76½	30.1	c. S. c. S. c. S by E. S. c. f. S. S by E. S.	21		76		12.35	12.38						0.16	1.34	14.17	13.17*		24.6	24.4	24.5	23.6		66	Major part moderate and cloudy. T.S. 78°.
2	78½	30.1¼	30.1	78	30.1	h. S by E. S. S by E. h. c. S by E. SSE. S by E. c. S. c. S. S by E. S.	14		62		13.33	14.38						S 0.22	1.10	16.16	12.41*	12.47*	24.6	25.4	25.1	24.2	N.B. going to *Westward* encreases dip.	70 3895	Pleasant breeze, with fair weather and smooth water. T.S. 76°.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D.L. A.O. N	D.L. A.O. S	D.L. A.T.K. W	D.L. A.T.K. E	Longitude from Greenwich A.	Longitude from Greenwich T.K.	Longitude from Greenwich D. ¢ T.K.	Longitude from Greenwich ¢	S.	O.	E. D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation Az.	Magnetical Variation Amp.	Magnetical North Dip Face E.	Magnetical North Dip Face W.	Magnetical North Dip MD.	Magnetical North Dip C.D.		ML.	
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′	° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		3895	
July											W	W	E	W				S	N	W	W	W							
3	79	30.0¼	30.0¼	79	30.0½	h. S. S by E. S. h. S by E. SSE. S by E. S. S by E. h. sq. c. S by E. c. S by E. SSE. S by E. SSE.		3	35		14.56	16.36						1. 6	0.17	18.13	11.37*		24.2	24.6	24.4	23.5		97	Fresh breeze throughout. T.S. 76°.
4	77½	30.1	30.0¼	77	30.0½	h. SSE. SE by S. SE. SE by S. h. SE by S. SE. h. f. c. SE by S. c. f. SE.		14	30		15.44	17.55						2.13	S 1. 8	19.29	10.31* *9. 0	*8.40	22.2	22.6	22.4	21.5	Very steady.	86	Pleasant trade wind, with a Southerly swell. T.S. 76¾.
5	78½	30.1¼	30.1¼	78½	30.1	h. SE. SE by E. ESE. h. f. ESE. f. c. f. ESE. SE by E. f. SE by S. SE.	2		15		16. 4	18.30	93	20. 3	4	⊙	26	3.28	2.21	20. 3	8.59* *8.32	8.59*	19.6	20.6	20.2	19.3	Extremely steady.	80	Night, sea luminous supposed blubber. Major part, pleasant breezes, with a swell from SE. T.S. 76¾.
6	79¼	30.1	30.0¼	79¼	30.0½	f. SE by E. SE. f. c. SE by E. SE. c. sq. r. c. SE. SE by E. SE by S. c. sq. r. SE by S.	12		29		16.49	19.44						4.56	3.37	21.20	8.37*	8.54*	19.1	20.2	19.6	18.7	Great swell.	99	A.M. great swell. In the forenoon, hard rain, small drops, but very close. First part, fresh trade; latter, squally and some rain. T.S. 77¾.
7	80	30.0½	30.0¼	80	30.0½	c. SE. SE by S. SE. c. f. SE. SE by E. SE. f. c. SE by E. c. sq. SE by E.		14	8		17.39	20.42						6.22	5.17	22.20	7.52*	7.49*	15.4	16.2	15.7	15.	Very great swell.	101	Great swell. The barometers very unsteady. Fresh gales and cloudy. T.S. 78¾.
8	79½	30.0½	30.0½	79½	30.0½	sq. r. sq. SE by E. SE. sq. c. SE. c. SE. c. sq. r. h. f. SE. SE by E.		14		5	18.42	21.40						8. 1	7.10	23.20	*6.26	*6.33	11.	12.6	11.7	11.	Pretty steady, though great swell; touched the screws, and found the same.	118	Ditto. Ditto Strong gales and squally. T.S. 78°.
9	79½	30.1½	30.1¼	79½	30.1½	f. sq. ESE. SE by E. SE. sq. f. SE. sq. c. SE. SE by E. c. SE by E. SE.		3		14	19.45	22.29						9.45	8.57	24.11			7.2	8.4	7.7	7.	Pretty steady.	121	Ditto. Fresh gales throughout. T.S. 78°.
10	77½	30.1½	30.1½	77½	30.1½	f. SE. SE by E. f. sq. SE by E. c. sq. SE. SE by E. sq. SE by E. ESE. SE.		5		21	20.37	23. 0						11.33	10.50	24.44	5.44*	5.32*	3.6	5.0	4.3	3.4	Ditto, but great swell.	120	Ditto. Saw a pettrel. Fresh gales from SE. with a large swell. T.S. 77°.
11	77	30.2¼	30.2½	76¾	30.2½	h. sq. r. c. SE. SE by E. c. sq. SE. SE by E. SE. sq. c. SE. SE by E. c. f. SE by E. SE.				8	21.42	23.57						13. 7	12.24	25.43	*4. 0		2.2	2.4	2.3	1.4	Not steady.	114	Major part fresh gales and squally, with a great confused swell. P.M. a weather gall. A.M. Swell much abated. Towards noon, moderate and fair. T.S. 75°.
12	76½	30.3	30.2¼	76½	30.2¼	h. SE. h. f. SE. SE by E. f. c. SE by E. c. sq. SE. SE by E.		1		4	22.29	24.40						14.48	14. 6	26.28	4.15*	4.20*	1.4	South Dip. 1.2	1.3	2.2	Pretty steady.	111 4942	Pleasant trade wind. Swell very much abated. A.M. saw a bird, supposed to be a shearwater. Mr. ROBERTS saw a man of war bird. T.S. 75¾.

1775	Th.	Marine Barometer, R.	S.	Th.	D.	Weather and Winds.	D.L A.O. N	S	D.L. A. T.K. W	E	Longitude from Greenwich A.	TK.	D. ☽ T.K.	☽	S.	O.	E. D.	Latitude A.	O.	Cor. Long.	Magnetical Variation Az.	Amp.	Dip Face E.	W	MD.	C.D.		ML.	
		In.Dec.	In.Dec.	°	In.Dec		′	′	′	′	° ′	° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		4942	First part, fresh gales and squally. Latter, moderate and fair. A.M. Fog Bank exactly like an island, the outline perfectly well defined, except the extremities: I never before saw any cloud so like land. T.S. 74°. Changed the poles of the dipping-needle. Mean of the various trials changed and re-changed 3½ S. viz.
											W	W	E	W				S.	S.	W	W	W							
July 13	76	30.2¾	30.2½	76	30.2½	h. sq. r. sq. r. c. c. c.	2		6		23.30	25.47						16.17	15.33	27.37	*2.43	*2.42	3.4	3.4	3.4	3 4		111	Changed the poles, marked end down, E. 4.4 W. 4 MD. 4.2; Re-changed, ditto up, 2.6 3. 2.7; Ditto, ditto down, 4.4 4.6 4.5; Ditto, ditto up, 2.4 2.4 2.4; Mean 3.4 3.4 3.4
						SE by S. SE. SE by E. SE by S. SE by S. SE. SE. SE by E. SE.																							
14	76	30.3¼	30.3	76	30.2½	i. sq. sq. f. c. sq. c. c. f.	3		9		24.27	26.53						17.46	16.59	28.45	1.48* *1.45	1.36* *1.49	5.2	5.4	5.3	6.2	Not very steady.	104	Constant trade wind. T.S. 74°.
						SE by S. SE. SE by E. SE by S. SE by S. SE. SE. SE by E. SE.																							
15	76¼	30.2½	30.2½	76½	30.2¼	f. c. sq. c. r. c. sq. r. sq. r. c. c. h.				1	25.20	27.45						18.58	18.11	29.39	*1.21		7.4	8.	7.6	8.5		88	First part, moderate. Middle, hard squalls and rain. T.S. 74°½.
						SE. SE by S. SE. SE by E. SE by S. SSE. V. SE. SE by E.																							
16	74¼	30.3½	30.3	74½	30.2¼	c. c. c. c.		1	1		25.42	28. 8						19.47	19. 1	30. 4	0.42*		9.2	9.6	9.4	10.3	Pretty steady.	54	A.M saw a bird like a booby, but shorter winged and necked, called by sailors, poor John. Light breezes, swell much abated. T.S. 74°.
						SE by E. V. SSE. V. ESE. SE by E. V. SE. SE by E. V. SE. E by S. ESE.																							
17	73	30.4	30.3¼	73	30 3½	c. c. fr. sq. sq. fr. sq. fr. c. sq.	2		5		26. 2	28.33	105	30.18	3	*At.	31	20.47	19.59	30 31			11.	11.2	11.1	12.		69	P.M. to the NE. the clouds very remarkable, being in white curved rays, like the variation chart. At 7 A.M. saw Trinidada from mast-head SSE. At 9 visible from deck. At noon, Trinidada S 36° E 11 leagues. Major part, moderate breezes and cloudy weather; winds variable and smooth water. By the bearings of Trinidada at noon, allowing it to lye in 20° 27′ S according to Dr. HALLEY. Its longitude per T. K. 28.13 W; Mean diff. T.K. and ☽ 8 obs. ☉ and 1* 1.58; 8 obs. ☉ 2.12; Long. 8 obs. ☉ and ☽ 1 obs. *At. 30.11; 8 obs. ☉ & ☽ 30.25; By Dr. HALLEY, 29.40; 29.50; Diff. 0.21; 0.35; T.S. 74°.
						SE by E. SE. SE by E. SE by E. SE. SE. E by S. ESE. E by S.																							
18	75½	30.4	30.3½	75½	30.3½	f. f. c. c. c. f.		8	4		26.29	29. 4	138 120	31.22 31. 4	3 3	☉ ☉	11 23	22. 9	21.29	31.15	E 0.20*	E 0.13*	13.	13.	13.	13.7	Very unsteady.	87	At Sun-set, Trinidada E by S ½ S 8 or 9 leagues. T.S 76°.
						c. sq. c. fr. sq. r. sq. r. f. sq. r. sq. r. c. f.																							
19	73½	30.4	30.3	73½	30.3	ENE. V. ESE. V. C. NE. V. C. N. V. N.					26.12	28.47	145	31.12	3	☉	15	22.48	22. 8	30 59		0.44*	14.4	14.4	14.4	15.3	Pretty steady.	47	Mostly light breezes and cloudy. T.S. 74°.
																												5502	

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D. L. A. O. N	D. L. A. O. S	D. L. A. T. K. W	D. L. A. T. K. E	Longitude from Greenwich A.	Longitude from Greenwich T.K.	Longitude from Greenwich D. ¢ T.K.	Longitude from Greenwich ¢	S.	O.	E. D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation Az.	Magnetical Variation Amp.	Magnetical South Dip Face E.	Magnetical South Dip Face W.	Magnetical South Dip MD.	Magnetical South Dip C.D.		ML.	
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′	° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		5502	
July 20	75	30.4	30.3¼	74½	30.3	f. C. f. C. NE. f. c. f. C. V. f. E. ENE.		3	5		W 26. 8	W 28.48	E 137	W 31. 5	3	⊙	12	S 22.57	S 22.20	W 31. 0	E	E *0.44	14.6	15.	14.7	15.6	Not very steady.	10	Mostly calm throughout, with smooth water. T.S. 74°¼.
21	73	30.4	30.3¼	73¼	30.3¼	f. C. ENE. f. c. ENE. E by N. c. h. E by N. ENE. h. c. ENE. NE.		4			25.35	28.15	115 128	30.10 30.23	3 4	⊙ ⊙	29 16	24. 7	23 34	30.27	*0.42	0.55* *1. 5	17.4	18.	17.6	18.5	Extremely unsteady, the ship having an irregular motion, tho' smooth water.	76	Major part light breezes, with smooth water. T.S. 72°.
22	74¼	30.5	30 4½	74	30.4¼	f. NE. f. h. sq. fr. NE. V. c. f. V. NE by E. V. f. V. ENE.		2		8	24.49	27.21	174 94	30.15 28.55	5 3	⊙ ⊙	22 18	25.10	24.39	29.33	0.11* W *0.15	0.17* W *0.22	19.4	20.4	20.	20.7	Very steady.	76	Pleasant breeze and smooth water. T.S. 72°.
23	74	30.6	30.5½	74	30.5	f. E. E by S. f. E. E by N. E. f. E by S. V. f. SE by E.		7	8		24.55	27.35	147 135 140	30. 2 29.50 29.55	3 3 3	⊙ ⊙ ⊙	24 16 20	26.12	25.48	29.47	E 0. 6*	E 0.11*	21.	21.6	21.3	22.2	Extremely steady, though long swell.	65	Pleasant breezes; a long swell. T.S. 70°.
24	71¼	30.6	30.5½	71½	30.5	f. SE by E. SE. f. SE by E. ESE. f. c. ESE. c. ESE. SE by E.	2		14		25.20	28.12						27.44	27.18	30.24	1. 0* *1.13	1.10*	23 4	24.	23.6	24.5		96	Pleasant breeze. At 10 A.M. saw a sail bearing S by W. T.S. 69°.
25	72¼	30.6	30.5½	73	30.5	c. ESE. SE. SE by E. c. SE by E. c. h. ESE. SE by E. h. V. SE.		2		3	25.49	28.38						28.54	28.30	30.50	2.12* *1.52	2.16* *1.27	26.	27.	26.4	27.3		76	Light breezes throughout. Passed by the sail at midnight; it was a small two-mast vessel. At 6 A.M. saw the vessel a-stern. T.S. 69°¼.
26	71	30.6	30.5½	71½	30.5	c. E by S. SE by E. hb. c. sq. with fr. V. SE by E. sq. with fr. h. SE by E. V. h. f. SE. SE by E. V.		4	6		26.23	29.18						29.55	29.35	31.29		1.52*	27.2	28.	27.5	28.4	Very steady.	69	Winds mostly variable. T.S. 67°¼.
27	70¼	30.6	30.5½	70½	30.5	f. ESE. SE. f. SE. SE by E. ESE. V. f. V. ESE. f. E. E by S.		6		4	26.36	29.27						30.36	30.22	31.37	*3. 0	*3.14	27.6	28.6	28.2	29.1		43	Light airs. T.S. 63°.
28	68	30.5½	30.4½	68½	30.4½	f. V. f. C. f. c. C. NE by E. C. c. f. WNW. W by S.		6	9		26.18	29. 0						30.45	30 37	31. 8	2.45*	2.16*	27.6	28.6	28.2	29.1		18	Mostly calm. T.S. 66°.
29	66½	30.4¾	30 3½	66½	30.3¼	h. W by S. V. c. V. NW. c. NW. V. [illegible]		6	3		25.21	27.50						31. 5	31.33	30. 2	*2.10		29.	30.	29 4	30.3	Very unsteady.	53	Major part light breezes. T.S. 67°¼.
																												6084	

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.		D.L. A.O. N	D.L. A.O. S	D.L. A.T.K. W	D.L. A.T.K. E	Longitude from Greenwich A.	Longitude from Greenwich TK.	Longitude from Greenwich D. ☽ T.K.	Longitude from Greenwich ☽	S.	O.	E D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation. Az.	Magnetical Variation. Amp.	Magnetical South Dip Face E.	Magnetical South Dip Face W.	Magnetical South Dip MD.	Magnetical South Dip C.D.		ML.	
	°	In.Dec.	In.Dec	°	In.Dec.			′	′	′	′	° ′	° ′	′	° ′			′	° ′	° ′	° ′	° ′	′ °	°	°	°	°			
												W	W						S	S	W	E	E						6084	
July 30	65¼	30.2¼	30.1¼	65¼	30.1½	c. sq, r. c. sq. r. sq, r. c. c. c. sq.	NW by W. NW by W. NW by N. NW by N. NW by N.		7		5	22.36	25. 6						32. 3	32. 8	27.10	2.26* *1.27	*1.42	31.3	32.3	31.7	32.5	Not steady.	152	An increasing gale from NW quarter, with frequent squalls. 9 P.M. bar. 30.1¾. 8 A.M. 30.2¾. T.S. 65°½.
31	62		29.8	62		f. c. sq. r. sq, r. sq. r. hsq. hsq, r. sq, hr. hsq.	NW by N. NW by N. NWbyN. NNW. NbyW. N.	5		26		19.14							33.14	[33.19]	[24. 3]	0.44*						No obs. too much motion.	184	Strong gales, with hard squalls and rain. 9 P.M. bar. 30.1½. 12. 30.1. 8 A.M. 29.9½. 10. 29.9. 11½. 29.8½.
Aug. 1	61½		29.8½	61½		sq, r, L. sq, r, L. sq. r. sq. c. c.	NNW. NNW. NNW. NW. WNW. WNW. W by N.					16.28	19.24						33.35	33.35	21.22			34.	35.	34.4	35.2	Very unsteady.	141	First part, blowing very fresh from N.W. Latter, more moderate, with very large sea. Bar. 1½. 29.7½. 2½. 29.7. 4. 29.7½. 6. 29.8. 8. 29.8. 10. 29.8. A.M. 7. 29.8.
2	58½	29.9	29.8½	58½	29.8½	h. h. c. sq, r. L. sq. c.	W. W. V. W by S. W by S. WSW. WSW. V. W by S.	2			16	14.53	17.33						34. 9	34. 7	19.28	W *2.35		33.4	34.4	34.	34.6	Unsteady.	86	Major part, light breezes, with great swell.
3	55½	29.3	29.2½	55½	29.2¼	c. sq, r. L. to c.n.e. h. sq. sq. L, r. c. L, r. c. L, r. sr.	SW. V. W. NE by N. ENE. V. NEbyE. N. WNW. V. W.		1		5	13.56	16.29						34.26	34.25	18.21		W 3.18*	34.4	35.4	35.	35.6	Not very unsteady.	55	Winds variable, with squally weather and confused sea. bar. 3 P.M. 29.8. 6. 29.7½. 10. 29.7. 8 A.M. 29.3. 9 A.M. 29.2½. About noon, it appeared very threatning to the Northward, but the clouds dissipated.
4	54¾		29.8	54¾		sq. c. r. sq, r. hard gales. ditto.	W by N. V. W by S. V. S by E. S by E. S by E. SSW.	2		12		11.45	14.30						33.37	33.34	16.19							No obs. too much sea.	129	First part, squally with some rain. The middle, excessive hard gales, with a great sea; and the spray so thick that the ship was covered with it. 2 P.M. bar. 29.2½. 4. 29.2. 6. 29.2½. 9. 29.5. 7 A.M. 29.7½. 9. 29.7½. 11. 29.8.
5	51½		30.0½	50½		h. sq, r. sq, r. sq, hail. sq, hail. sq, r. hail. sq. sq. sq, hail. hsq, hail.	SSW. SW by S. SW by S. V. SSW. S by W.	11			35	9.24	11.34						33.37	33.23	13.20					35.	35.6	Very unsteady.	117	Squally weather, with much hail and rain, and a large swell. Bar. 4 P.M. 29.8½. 6. 29.9. 8. 30.0. 7 A.M. 30.0½. 9 A.M. 30.0½.
6	53		30.2½	52		sq, r. sq, hail. sq, r. hail. sq, r. c. c. sq. sq, r. sq, r. sq. sr.	SSW. S by W. S by W. S. S. S. S by E.	14			2	7.19	9.27						33.37	33. 9	11.10								103	First and middle, fresh gales and squally. Latter, moderate; great swell. AM. some silver birds. Bar. 2 P.M. 30.0½. 5. 30.1. 10. 30.2. 7 A.M. 30.2. 9. 30.3.
7	56½		30.0½	56		c. c. f. h. h. c. sq, r. sq, r.	S by E. C. NNE. C. NNE. NE by N. V. NNE. NNE. NE by N.		25		6	6. 5							33 37	[33.21]	[9.53]								62	First, light airs, with cloudy weather. Latter, fresh gales, with rain. P.M. Venus appeared very dim and fuzzy; a rim round the Moon. 9 A.M. bar. 30.1½. 11. 30.0½.
8	60½	30.1	30.0	60	30.0	sq, r. sq, r. c. sq, r. sq, r. sq, r. f.	NNE. NNE. NNE. V. N by E. N. V. NNW. V.					3.55	5.57						33.51	33.48	7.37								109	First and middle, hard gales, squally with rain. Latter, moderate and hazy; great swell. A.M. some silver birds, a pintado bird. Bar. 2 P.M. 29.9½. 8 A.M. 29.9½. 9. 29.9½. 10. {30.0. 30.0½.
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1775	Th.	Marine Barometer, R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude from Greenwich A.	TK.	D.☽ T.K.	☽	S.	O.	E. D.	Latitude A.	O.	Cor. Long.	Magnetical Variation Az.	Amp.	South Dip Face E.	W	MD.	C.D.		ML.	
		In.Dec.	In.Dec.	°	In.Dec		′	′	′	′	° ′	° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°		7222	
Aug. 9	62½		30.0½	62½		f. NW by N. NNW. f. sq. h. sq, r. NNW. N by E. sq, r. r. sq. N by E. N. sq. sq, r. N.		8		17	W 1.29	W 3.14	E	E				S 34. 6	S 34.11	W 4.51	W 8.50*	W 8. 1*						122	First, moderate breezes and fair. Latter, fresh gales, with squalls and rain. Bar. 8 P.M. 30.1. 9. 30.0½. 11. 30.0. 12½. 30.0 6 A.M. 29.9½. 8. 29.9½. 9½. 30.0½.
10	62½	30.2½	30.2	62	30.1½	fr. h. h. dr. h. N by W. N. h. c. N. N by E. c. N by E.		+		4	E 1.15	0.26						34. 6	34.15	2. 0			37.	39.	38.	38.6	Very unsteady.	136	Major part, fresh gales. Bar. 2½ P.M. 30.0½. 5. 30.0½. 7. 30.1. 8. 30.1½. 11½. 30.1½. 6 A.M. 30.2. 9. 30.2 Two black alcatrasses. A.M. a few pintado birds and som silver birds.
11	61½	30.1½	30.0½	60½	30.0	h. h. sq. N by E. NNE. sq. e. NNE. c. f. NNE.		17		1	4. 5	E 2.25						34. 1	34.27	E 0.54	*12.43							140	Fresh gales, with squally weather and a large sea. Bar. 9 P.M. 30.2. 11. 30.1½. 9 A.M. 30.1. 10. 30.0½. A.M. many pintado birds, sheerwaters, &c. one alcatrass.
12	60	30.1	30.0½	59½	29.9½	h. h. fr. N by E. fr. N. V. hr. V.				25	6.17	5. 2						33.47	[34.36]	3.34			39.4	41.	40.2	41.	Unsteady.	110	Most part, fresh breezes and hazy. Bar. 1 to 10 P.M. 30.0½ to 30.0½. 8 A.M. 30.0½. 9. 30.0½. A.M. several poor Johns. some sheerwaters, and a young alcatrass, but no pintado birds.
13	58½	30.2	30.1½	59½	30.0	r. c. c. fr. c. f. NNW. NW. f. NW. NNW. f. sq, r. c. NNW. NW by W. W by N. W.		10			8.43	7.26						33.37	34.13	6. 3	*16.9							122	Most part, fresh gales with some rain. Bar. 1 P.M. 30.0. 4. 30.0½. 8. 30.0½. 8 A.M. 30.0½. 9. 30.0½. 11. 30.1½ Several poor Johns, sheerwaters; and A.M. a few pintados.
14	58½	30.3½	30.3½	59	30.2½	f. WSW. SW by W. c. SW by W. SSW. S by W. c. S by W. V. c. V. WSW. C.		16		16	10. 4	9. 3						33.44	34. 4	7.43	16.43*		41.4	43.2	42.3	43.1	Very steady.	67	First part, fresh breezes. Latter, light airs. Bar. 8 PM. 30.1½. 12. 30.2½. 9 A.M. 30.3½. 12. 30.3½. A.M. some porpoises.
15	60½	30.3	30.2½	60½	30.1½	f. c. V. c. NW by W. NW. c. NW. WNW. V. c. V. NNW.				32	11.10	10.41						33.49	34. 9	9.24			41.4	43.4	42.4	43.2	Extremely steady.	55	First part, variable. Latter, an increasing gale from NW. with cloudy weather. Bar. 9 P.M. 30.3½. 11. 30.3.
16	60½	30.1½	30.1½	60½	30.0½	c. N by W. c. f. c. N by W. fr. c. sq. c. fr. N by W. N by E. fr. c. N by E.		2		9	13.32	13.12	94	11.38	4	⊙	13	33.53	34.15	11.58	18.18*	17.52*	42.6	44.	43.3	44.	Very steady.	119	Moderate gales, with some light squalls and smooth water. Bar. 4 P.M. 30.2½. 6. 30.2. 10. 30.2½. 12. 30.1. 8 A.M. 30.1½. 11. 30.1½. A.M. some pintado birds, and several silver birds, some setting on the water, others flying about.
17	61	30.2	30.2	61	30.1	c. sq. sq, r. N by W. V. NNW. sq, r. NNW. NW by N. sq, r. c. NW by N. V. c. NW by N.	8		19		16.29	15.50	75	14.35	1	⊙	Dale. 5.	34. 1	34.15	14.39	19.39*	19.56*	43.4	45.2	44.3	45.	Not very steady.	146	Fresh gales throughout, with cloudy weather and some squalls. P.M. large black alcatrass. A.M. some pintado birds, sheerwaters, &c. Bar. 3 P.M. 30.1½. 9. 30.1½. 12. 30.1½. 7 A.M. 30.1½. 9. 30.1¾
18	61	30.2½	30.2½	61	30.1½	f. N by E. N by W. f. c. N by W. c. h. N by W. N. V. h. V.	4		9		19. 1	18.13						34. 5	34.15	17. 5	20.50* *22. 0	20.47*	45.6	46.4	46.1	46.6		126	Pleasant breeze and mostly hazy. Several pintado birds. A.M. two birds, somewhat larger than silver birds, with swallow-tails flying above the ships also a Cape hen, and several grampusses. Bar. 9 P.M. 30.1½. 12. 30.2½ 9 A.M. 30.2½
																												8365	

1775	T.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th.	Marine Barometer D.	Weather and Winds.	D.L. A.O. N	D.L. A.O. S	D.L. A.T.K. W	D.L. A.T.K. E.	Longitude from Greenwich A.	Longitude from Greenwich T.K.	Longitude from Greenwich D. ¢ T.K.	Longitude from Greenwich ¢	S.	O.	E. D.	Latitude A.	Latitude O.	Cor Long.	Magnetical Variation Az.	Magnetical Variation Amp.	Magnetical South Dip Face E.	Magnetical South Dip Face	Magnetical South Dip MD.	Magnetical South Dip C.D.		ML.	
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′ E	° ′ E	′	° ′ E				° ′ S	° ′ S	° E	° ′ W	° ′ W	°	°	°	°		8365	Most part, light breezes and hazy. At 2 P.M. saw the land from mast-head ESE. per compass.
Aug. 19	60¼	30.1	30.0	60½	30.0	h. N by E. WNW. NW by N. h. dr. NW by N. WNW. dr. fr. WNW. V. fr. V.	7			8	19.49	19. 9						34.19	34.22	18. 6			45.2	46.6	46.	46.5	Very steady.	44	At 5½ h. Peaked hum of Cape Good Hope, S 52.4½ E; Hum. mistaken for Cape, S 57. E; L. ext. Table Land, E 4. N; L. ext. in sight, E 19. N. At Sun-rise: Sugar Loaf, N 69°. E; Table Land, N 73. E; Cape Good Hope, S 60. E. At noon: L. ext. N 55. E; Cape Good Hope, S 61. E. Longitude per T.K. 19. 9 E; Cape *Good Hope* per chart, 0.21 E; Longitude of *Cape* per T.K. 19.30; True longitude of *Cape*, 18.27; Error of T.K. 1. 3
20	61	30.0½	30.0½	60½	29.9½	h. NNW. h. NNW. N. V. NE by N. h. N by E. N. NNE. h. N by E. NE.													34.15			22.31*	45.6	45.6	45.6	46.3	Perfectly steady.	70	Major part, moderate and hazy. In False Bay. At 4 h. Cape Good Hope, E 16°. S. Sunset * L. ext. N 21°. E. R 2.18 Bluff Point in one with Hummock. 72.30 Cape Good Hope * 2d. 86. 6 Hanglip. * 2d Cape Good Hope. L 24.30 Hummock, called *Cape* last night. 7. 0 Hummock. 1.30 Outer Hummock and highest part diff. Ridge. R 13.48 Hanglip. Bellows, E 15°. S. Sunrise, Hanglip, S 47°. E. Cape Good Hope, S 36°. W. White Sand Hills in Symmon's Bay, N 33°. W. At noon: Hanglip Point, S 35°. E; Cape Good Hope, S 50. W; Noah's Ark, NW about 4′ dist. N. B. All these bearings are by compass, without allowing for variation.
21																							45.2	46.4	45.7	46.4	Very steady.	8479	At 4 P.M. being calm, hoisted out the pinnace, and towed in towards the harbour. At 7 anchored in 20 fath. Noah's Ark W. Roman Rock NW ½ W dist. about two miles.

Aug. 21	Strong gales and squally.	S. S by E.	At 4 A.M. found ship drove, veered to a whole cable; got down top-gallant yards, lowered fore and main yards, and got sheet anchor overside.
22	Fresh gales with hard squalls. P.M. increasing.	S by E.	
23	Strong gales and excessive hard squalls. Towards midnight began to moderate.		At 8, gale increasing, swayed up lower yards. At noon, close reefed top-sails, stopt the cable, and came to sail.
24	Moderate and fair.	SE.	At 1 P.M. anchored in Symmon's Bay, in 7½ fath. when moored, lower flag staff from Point WSW. Dolphin's Nose NE. Roman Rocks E¼S. Noah's Ark SE. Hanglip SE¼S off shore ¾ of a mile.
25	Moderate and cloudy.	NW.	
26	Fresh breezes, with some rain.	W. SW.	
27	Light breezes mostly from SE. with fair weather.	SE.	
28	Light breezes and fair.	V.	Sailed a Dutch snow.
29	First and middle, moderate and cloudy, with some rain.	NW to W.	Sailed La Bretagne, Capt. MANSON for Mauritius.
	Latter, squally.	SW.	
30	Strong gales and clear weather.	SSE.	Returned.
Sept. 1	Moderate and fair for most part, and a swell.	SE.	
2	Strong gales and hard squalls.	NW.	
3	Major part, squally with rain. Towards evening, light breezes and fair.	NW.	Sailed again.
4	Moderate and fair.	V.	
5	Strong gales and very hard squalls; could not send a boat ashore.	S by E.	
6	Moderate and fair.	V.	
7	Mostly light breezes.	V.	Sent long-boat to endeavour taking up the anchor: returned with 80 fathoms of cable, but could not weigh the anchor.
	P.M. a fresh gale.	W.	
8	Moderate breezes.	SW.	
9	Moderate and fair.	V.	
10	Strong gales and hard squalls.	S by E.	
11	Light winds from Southward, and fair weather.	S.	
12	Fair.	V.	
13	Fair.	V.	
14	Light airs and	C.	Sailed the Anson, Capt. TRYON, for England.
15	First part, calm. Latter part, breezes.	C. W.	Sent long-boat again to try for the anchor, but could not purchase it.
16	Fair.	V.	
17	Strong gales, with rainy weather.	NW.	
18	Fresh gales.	NW.	

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer 1 h.	Marine Barometer D.	Weather and Winds.	D.L. A.O. N	D.L. A.O. S	D.L. A. T.K. W	D.L. A. T.K. E	Longitude from Greenwich A.	Longitude from Greenwich TK.	Longitude from Greenwich D. ☽ T.K.	Longitude from Greenwich ☽	S.	O.	E D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation. Az.	Magnetical Variation. Amp.	Magnetical South Dip Face E.	Magnetical South Dip Face W.	Magnetical South Dip MD.	Magnetical South Dip C.D.		M L.	*Cape* of GOOD HOPE lat. 34.22 S. long. 18.27 E.
		In.Dec.	In.Dec	°	In.Dec.		′	′	′	′	° ′ E	° ′ E	′	° ′			′	° ′ S	° ′ S	° ′ E	° ′ W	′ ° W	°	°	°	°			
Sept. 19	59		30.1	59		f. NW. NW by W. c. f. NW by W. WNW. f. C. c. C. E. C. WNW. NW.					18.43	18.52							34.48	18.52								17	At Sun-set, Cape Good Hope NW=WNW. Table Land N by W=NW by N. Hanglip E 7 N=E 29⅛ N. Eastern ext. in sight E5°S=E 17½ N distance 6 leagues from nearest land. At Sun-rise, Cape Good Hope N by W¾W=NW¾N 9 or 10 leagues. Hanglip Point NE=NNE. Ext. to E4. ESE=E. Saw a sail, supposed the Gatton, come round from Table Bay, to join us. At noon, Cape Good Hope N per comp.=N 22¾ W. Hanglip N 35 E=N 12⅛ E 9 leagues. Eastern ext. N 80 E=N 57¾ E. Major part, light breezes and fair weather, with great swell from SW.
20	59¾		30.0¼	59		c. NW. NW by N. c. sq. NW by N. N by W. sq. c. N by W. NNW. c. sq. sq. r. NNW.	4				21.26							35.59	35.55	[21.15]								154	Fresh gale, with a very large sea. Bar. 9 P.M. 30.1. 8 A.M. 30.1.
21	57½		30.1½	57½		c. NW by W. WNW. W by S. c. sq. c. W by S. W. c. W. W by S. c. sq. sq. r. W by S.	8				24.22							36.21	36. 9	[24. 1]								144	Fresh gales and great swell. Bar. 8 P.M. 30.1. 8 A.M. 30.1.
22	62		30.2½	62		sq. W by S. SW. c. f. S by W. S. f. c. S. C. V. c. f. NE. NE by E. ENE.	10		49		25.36							36.37	36.15	[25. 5]								66	First part, decreasing gale. Middle, calm. Latter part, a breeze from the NE. Great swell. A.M. bar. 30.3. N.B. it was not observed at noon. Past 1 P.M. it was 30.2½. Many alcatrasses, pettrils, pintado birds, &c.
23	66½		29.6¾	66		f. NE by E. ENE. f. NE by E. f. NE by E. f. ENE. NE by E.	6				27. 8							37.34	37. 6	[26.27]								92	First part, fresh gales. Latter, hard gales, with great and confused sea, Mostly fair weather. 2 P.M. bar. 30.2½. 9. 30.1. 11. 30.0. 8½ A.M. 29.8. Many pettrils, pintado birds, &c.
24	65		29.5½	65		h. NE by E. h. NE by E. NE by N. V. h. c. V. W. c. W. WNW. NW by W.		9			28.13	27.23						37.58	37.39	27.23								58	First part, hard gales from N4. Latter, from W4. with a very large NE swell, confused in heaps. Many alcatrasses, pettrils, pintado birds, &c. Bar. 29.6 to 29.5½.
25	58½		29.7	58½		c. W by N. V. W by N. c. h. c. r. c. W by N. WNW. V. NW. c. r. NW. V. r. sq. WSW.	15				29.35							37.32	36.58	[29. 0]								69	First part, light breezes. Latter part, fresh breezes. A.M. swell much abated. Many alcatrasses, pintado birds, pettrils, &c. Bar. 2 P.M. 29 5¾. 3. 29.6. 11. 29.6. 8 A.M. 29.6½. 9. 29.6¾.
26	61	29 9½	29.9	61	29.8½	sq. WSW. sq. sq. sr. sq. WSW. SW by W. c. r. SW by W. W by S. W by N. r. W by N. WNW.	21			31	32. 9	31.50						37. 1	36. 6	31.50			52.4	53.4	53.	53.4	Not very steady.	127	Strong gales, mostly W4. with squalls and some rain. Many alcatrasses, pintado birds, &c. and great many pettrils. Bar. 2 P.M. 29.6½. 4. 29.7. 6. 29.8. 9. 29.8½. 8 A.M. 29.9. 9. 29.9¾. 11. 29.9½.
27	62½	30.1½	30.1¼	62½	30.0¾	c. N by W. c. sq. r. N by W. NNW. sq. r. h. NNW. W by N. sq. c. W by N. W. WNW.	1				35.18							36.40	35.24	[34.55]							158 885	First part, fresh gales and squalls. Latter, moderate. A great swell. Many alcatrasses, pintado birds, pettrils, &c. Bar. 4 P.M. 29.8½. 6. 29.9. 9. 29.9. 12. 29.9. 8 A.M. 30.1. 9. 30.1½. 11. 30.1½.

1775	Th.	Marine Barometer, R.	S.	Th.	D.	Weather and Winds.	D.L A.O. N	S	D.L. A. T.K W	E	Longitude from Greenwich A.	TK.	D.☽ T.K.	☽	S.	O.	E. D.	Latitude A.	O.	Cor. Long.	Magnetical Variation Az.	Amp.	South Dip Face E.	W	MD.	C.D.		ML.	G denotes *Capt. Money's* Observations in the *Gutton*, the longitude reduced to *noon*.
	°	In.Dec.	In.Dec.	°	In.Dec		′	′	′	′	° ′	° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°			
																												885	
Sept. 28	62¼	30.3	30.2¼	62½	30.2	h. sq, r. r. W by N. r. h. W. W by N. h. W by N. NW by W. h. V. NW by W.		1	9		E 36.54	E 36.26	E	E				S 36. 3	S 34.49	E 36.26	W	W 27.30*	57.4	58.4	58.	58.4	Very unsteady.	86	Pleasant breeze. Many alcatrasses, pintado birds, pettrils, &c. Bar. 3 P.M. 30.1½. 6. 30.2. 10. 30.2½. 12. 30.2½. 8 A.M. 30.2½.
29	67¼	29 9½	29.9¼	67	29.9	f. NW by N. N by W. f. sq. h. sq. N by W. V. N by E. c. N by E. N. c. N. N by E.	4			27	39.48	39 47						35.49	34.31	39.47	27.43*							144	Major part, fresh gales. Many alcatrasses, pintado birds, pettrils, &c. Gutton, var. az. 28° 13′* W. Bar. 1 P.M. 30.2½. 5. 30.2¼. 9. 30.1. 12. 30.0½. 6 A.M. 29.9¾. 8. 29.9½. 10. 29.9½.
30	56½	30.2	30.1¼	56½	30.1¼	c.hsq, r, L, Th. N by E. N. V. L. to sw. c. V. W. c. sq. r. W by S. sq, r. h. c. W by S. SW by W. SW.	20			6	42.52	42.57						35.34	33.56	42.57								153	First and middle, fresh gales, with hard squalls, thunder, lightning, and rain. Latter, blowing fresh and hazy weather. Many pettrils, pintado birds, &c. and A.M. one silver bird. Bar. 2 P.M. 29.8¾. 4½. 29.8½. 5¾. 29.7½. 6. 29.7½. 8½. 29.8½. 9½. 29.9. 11. 29.3.
Oct. 1	61¼	30.3¼	30.3	61	30.2½	h. c. WSW. S by W. S. c. S. SSE. S by E. c. SE. SE by E. SE by S. c. SE. C. E.	19			12	43.59							35.22	33.25	[44.10]								64	First part, fresh gales. Latter, light breezes and calm. A.M. many alcatrasses, &c. Bar. 2½ P.M. 30.2. 5. 30.2. 9. 30.3. 12. 30.3. 6 A.M. 30.3½. 8. 30.3½. 11½. 30.3.
2	65½	30.1¼	30.1¼	65	30.1	c. fr. E by S. E. V. fr. c. sq. h. V. ESE. E. ENE. h. NE. h. NE. NE by N.					45.24	45.41	9 59W	45.32 46.40	6 3	☉ *Au.	26 21	35.55	33.58	45.41					59or60		Extremely unsteady.	85	First part, light breeze. Latter, fresh. P.M. many alcatrasses, &c. G long. ☉ and ☾, 45° 31′ E. Bar. 5½. P.M. 30.3. 8. 30.3. 12. 30.2. 8 A.M. 30.1½.
3	67¼	30.3	30.2¼	67	30.2	f. NE. f. h. f. NE. f. sq. h. NE. h. f. NE. NE by E.		2		3	47.36	47.56	32E	47.24	5	☉	38	36. 6	34.11	47.56	26.49*		59.	60.	59 4	60.	Very unsteady.	110	Moderate breezes throughout, weather changeable. Few birds, great dews, and water remarkably smooth. G var. 4 az. 26° 46′*, amp. 26° 47′*. Bar. 2 P.M. 30.1½. 6. 30.1½. 12. 30.2½. 8 A.M. 30.2½. 5½. 30.3.
4	66½	30.3¼	30.2¼	66	30.2½	h. NE by E. h. NE. h. NNE. h. NNE.		2		6	50.15	50.41	34W	51.15	3	☉	26	36.13	34.20	50.41							*Larboardside of cabbin.*	132	Mostly fresh gales. Some pintado birds. A.M. great dews; water smooth. G long. ☉ and ☾ 50° 39′ E. Bar. 1½ P.M. 30.2½. 4. 30.2½. 7½. 30.2. 12. 30.2. 6 A.M. 30.2½. 9. 30.3.
5	67	30.2¼	30.2¼	67	30 1¼	h. NE by N. h. NE by N. h. sq. c. NE by N. N. c. N.	2			1	53. 8	53.35						36.11	34.16	53.35	25.57*	25.39*						143	Fresh breezes. Some pintado birds. A.M. one pettril. G var. 4 az. 26° 9′*, amp. 26° 7′*. Bar. 2 P.M. 30.2½. 6. 30.2½. 6 A.M. 30.1½. 8. 30.2. 9½. 30.2½.
6	62¼	30.2	30.1¼	62	30.1¼	h. N by W. h. N by W. NNW. h. NNW. NW. h. c. NW .WNW. NW. V. S by E. SSE.	12			20	55.14	56. 1						36. 4	33.57	56. 1	24.42*		59.4	61.	60.2	60.6	Very steady.	106	First part, fresh gales. Latter, light and variable. P.M. an alcatrass. A.M. several alcatrasses and pintado birds. G var. 2 az. 24° 42′*. Bar. 1½ P.M. 30.2. 4. 30.1½. 6. 30.1½. 10. 30. ½. 12. 30.1½. 8 A.M. 30 1½. 9. 30.2.
7	62¼	30.3¼	30.3¼	62	30.2½	c. sq. r. SE by E. V. SSE. r. h. ESE. SE by S. S by E. S. h. f. S by W. f. S by W. V.	17			13	56.11	57.11	26E	56.45	4	*Au.	23	35.49	33.25	57.11								53	First and middle, light breezes and rain. Latter, light breezes and fair weather. P.M. *a north passed*; several alcatrasses and other birds. Bar. 2½ P.M. 30.1½. 5. 30.1½. 6. 30.2. 9½. 30.2½. 12. 30.2½. 8 A.M. 30.2½.
																												1961	

1775	Th.	Marine Barometer. R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude from Greenwich A.	TK.	D. ☽ T.K.	☽	S.	O.	E. D.	Latitude A.	O.	Cor. Long.	Magnetical Variation. Az.	Amp.	South Dip Face E.	W.	MD.	C.D.		ML.	
	°	In.Dec.	In.Dec	°	In.Dec.		°	′	′	′	° ′	° ′	′	° ′			′	° ′	° ′	° ′	° ′	′ °	°	°	°	°		1961	
Oct. 8	61½	30.3½	30.3	61	30.2½	c. SW. V. c. C. V. f. V. W. f. V. NW by W.		2		23	E 56.32	E 57.55	E	E				S 35.50	S 33.28	E 57.55	W 23.48*	W 24. 2*	61.4 61.4	63. 62.	62. 61.6	62.4 62.2	Pretty steady. *Larboard-side of cabbin.* Ditto. *Starboard-side of cabbin.*	21	Mostly light airs and calms, with large swell from SW. Few birds. G var. 3 az. 23° 31'*, amp. 23°50'*. Bar. 6 P.M. 30.3½. 8 A.M. 30.3½. 10. 30.3½.
9	63½	30.4¼	30.3¼	63	30 3¼	f. NW by W. WNW. W by N. f. W by N. WSW. f. WSW. SW by W. f. h. SW by W. V.	13			12	58.18	59.53	4	59.49	5	A *	32	36. 5	33.30	59.53	23.49*	23.57*	61.4	62.2	61.7	62.3	Very steady.	89	Major part, pleasant breezes and fair weather. Just before noon a *seal* passed close to the ship on the larboard side, at same time a flock of a vast number of *small white birds* at some distance on starboard quarter. G var. 2 az. 23° 25'*. Bar 2½ P.M. 30.3. 7. 30.2½. 1 A.M. 30.3½. 9. 30.3½.
10	61¼	30.4½	30.4	61½	30.3½	h. f. S by W. S by E. SSE. f. V. SE by S. S by E. f. S by E. C. f. WNW. NW. WNW.	5			1	58.46	60.22	45	59.37	6	A *	28	36. 0	33.20	60.22	21.43*	21.52*	61.4	62.4	62.	62.4	Pretty steady.	24	Mostly light airs, with a large swell from W^d. P.M. a *grampus* very near the ship. Several alcatrasses, &c. G var. az. 22°19'*, amp. 22°23'*.
11	62¼	30 3¼	30.2¼	62¼	30.2½	f. NW by W. f. c. NW by W. c. NW by W. WNW. c. f. WNW.	6			27	60.18	62.21						36. 6	33.20	62.21	23.10*	22.47*	61.4	62.4	62.	62.4	Not very steady.	77	Pleasant breezes. Some pintado birds, &c. smooth water, but a long swell from SW. G var. az. 22° 30'*, amp. 22° 45'*.
12	64¼	30.3¼	30.3	64	30.2½	f. WNW. f. WNW. f. h. c. WNW. c. WNW.	4			12	61.39	63.54						36.10	33.20	63.54	21. 5*	20.51*	62.2	63.2	62.6	63.2	Very steady.	68	First part, pleasant breezes. Latter, light airs, with great swell from SW. Some pintado birds, &c. Bar. 2 P.M. 30.2½. 11½. 30.2½. 8½ A.M. 30.3.
13	65¼	30.2¼	30.1½	65	30.1¼	h. NW by N. NNE. h. NNE. N by E. h. c. N by E. c. sq. c. N by E.		2		10	63.34	65.59						36.14	33.26	65.59	20.27*	20.34*	62.4	63.2	62.7	63.3	Not very steady.	96	First part, light breezes. Latter, moderate. Several pintado birds. A.M. a silver bird and pettril, several poor Johns. G var. 3 az. 21° 28'*, amp. 20° 59'*. Bar. 2 P.M. 30.2½. 10½. 30.2½. 1 A.M. 30.2½.
14	66	30.3	30.2½	65½	30.2	h. N by E. h. N by E. NNE. h. NNE. h. NNE. NE by N.	2			21	65. 6	67.52	W 25	68.17	5	⊙	27	36. 4	33.14	67.52	19.35*		61.6	62.4	62.1	62.5	Pretty steady.	78	Pleasant breeze. Great dews. G long. ⊙ and ☽ 67° 56'. Bar. 6 P.M. 30.2. 11. 30.2½. 12. 30.2½. 8 A.M. 30.2½.
15	64¼	30.0	29.9½	63½	29.8½	f. NNE. NE. f. sq. NE. sq. h. NE. NE by N. NNE. h. sq. NNE.		24		24	67.26							35.55	[33.17]	[70.24]	18.43*							117	First part, moderate. Latter, fresh gales and squally. Very damp weather. G var. 2 az. 19° 23'*, amp. 19° 43'. Bar. 6 P.M. 30.2. 12. 30.1½. 9 A.M. 29.9½.
16	59	30.3	30.2½	59	30.2	sq. r. r. h. NNE. V. N. h. N. NNW. NW. h. c. NW. W by S. SW by S. c. SW by S. S by W.					69.34	72.44	E 35	72. 9	2	⊙	19	35. 4	32.38	72.44			61.4	62.2	61.7	62.3	Not steady.	120	Fresh gales, with squally weather. A.M. many pintado birds, some alcatrasses, &c. Bar. 2 P.M. 29.8½. 4. 29.8½. 6. 29.7½. 10. 29.8½. 12. 29.9. 7½ A.M. 30.1½. 9. 30.2. 10. 30.2.
17	62¼	30.4¼	30.4½	62¼	30.2½	c. SSE. c. SSE. SE by S. c. SE by S. ESE. V. c. V. C.	11		5		70.30	73.35						34.57	31.41	73.35								66 2717	First part, moderate. Latter, light airs inclinable to calm, with a great swell. Several pintado birds, some alcatrasses, &c. At night, water luminous like blubbers. Bar. 2 P.M 30.2½. 4½. 30.3. 6. 30.3. 10. 30.3½. 12. 30.4. 8 A.M 30.4. 9. 30.4½. 10. 30.4½.

1775	Th.	Marine Barometer. R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude from Greenwich A.	TK.	D. ☽ T.K.	☽	S.	O.	E. D.	Latitude A.	O.	Cor. Long.	Magnetical Variation Az.	Amp.	South Dip Face E.	W	MD.	C.D.		ML.	
	°	In. Dec.	In. Dec.	°	In. Dec.		′	′	′	′	° ′	° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°			
Oct. 18	63¼	30.4¼	30.4	63	30.3¾	f. c. c. c. h. c. c.	V. C. C. E by N. V. NE. V. NE by E. NE. V. V. N by E.			6	E 70.32	E 73.31		E				S 34.53	S 31.37	E 73.31	W	W					Pretty steady.	2717 33	Mostly light airs and calm, with a large swell. At night, sea luminous like blubbers. Several alcatrasses, &c. lost sight of Gatton; got sight of her again before noon. Bar. 2 P.M. 30.4. 5½. 30.4. 11. 30.4. 1 A.M. 30.4. 8. 30.4½. 10. 30.4½.
19	66½	30.4	30.4	66½	30.3	h. c. c. c. c.	NNE. N. N by E. NE. NNE. N by E. NNE. NE. NE. NE by N. NNE. NE by N. N by E.		5		71.18	74.27						34.52	31.41	74.27			60.6	61.6	61.2	61.6	Very steady.	40	Light airs. Sea luminous at night like blubber. P.M. an uncommon bird like Cape hen, some alcatrasses. Bar. 2 P.M. 30.4. 4. 30.4. 10. 30.4. 12½. 30.4. 7½ A.M. 30.3½. 8½. 30.4. 10. 30.4½.
20	65		30.3	64½		f. f. f. f.	NE by N. NE by N. N by E. N. NNE. NNE. N by E. N.		1	8	72.21	75.38	3W 64E 60E	75.41 74.34 74.38	4 4 4	⊙ ⊙ ⊙	37 51 35	34.49	31.39	75.38	14. 9*	14.48*						55	Pleasant breezes. Sea luminous at night like blubbers. A.M. sky mare's tails. No birds. G var. 4 az. 15° 24'°. amp. 15° 2°. Long. ⊙ and ☽ 75° 56'. Bar. 2½ P.M. 30.3½. 11. 30.3½. 1 A.M. 30.3½. 8. 30.3½.
21	63¼	30.2½	30.2	64¼	30.1¾	f. f. c. c. sq. c. c. sq, r.	N. N by W. N by W. NNW. NW by N. NW by N. NW. V. SW by S.	10		22	73.16	76.55						33.45	30.25	76.55			59.4	60.4	60.	60.4	Very steady.	84	Moderate breezes. Sea luminous at night like blubbers. Towards evening became cloudy. No birds. G var. 2 az. 14° 10'°. Bar. 2 P.M. 30.3. 6. 30.2½. 8. 30.2½. 10½. 30.2½. 12. 30.2½. 8 A.M. 30.2. 9. 30.2½. 10. 30.2. 11. 30.2½.
22	61¼	30.4	30.3½	61½	30.3	f. f. c. c.	SSW. SSW. S by E. SSE. SSE. SE.	7		15	74.46	78.10						31.47	28.20	78.10	12.44*	12.49*	58.	58.6	58.3	58.7	Not steady.	142	Fresh gales. A.M. one or two poor Johns. No other birds. G var. 2 az. 12° 31'°, amp. 12° 51'°. Bar. 2 P.M. 30.2. 4. 30.1½. 5½. 30.2. 6½. 30.2½. 10½. 30.2½. 12. 30.2½. 9 A.M. 30.3½.
23	66	30.3¼	30.3¼	66	30.3	c. c. c. sq. sq. c.	SE by E. ESE. E. E. V. E by N. E by N.	21		4	75. 9	78.29						29.55	26.28	78.29			56.4	57.2	56.7	57.3	Very steady.	97	Major part, moderate breezes. P.M. several poor Johns, though slenderer and smaller than usual. A.M. poor Johns, a pettril, and a sheerwater. Bar. 2 P.M. 30.3. 6½. 30.3½. 12. 30.3½. 8½. 30.3½. 9. 30.3½. 10. 30.3½.
24	71	30.3¼	30.3	71	30.2½	f. f. f. f.	NE by E. NE by E. NE. NE. NE by E. NE by E. V.		3	24	74.43	77.39						29. 4	25.37	77.39	7.53* 10.10	8. 1*	56.2	56.6	56.4	57.		59	First part, pleasant breeze. Latter, light air and variable. P.M. an alcatrass. A.M. an alcatrass. G var. 2 az. 8° 54'°, amp. 9° 9'°. Bar. 2 P.M. 30.3. 4. 30.2½. 6. 30.3. 7½. 30.3. 11. 30.3.
25	71¼	30.3¼	30.3¼	70½	30.2½	f. f. f. c. c. f.	NE by N. C. ENE. E by S, C. C. C. SW by S. C.		5	2	74.47	77.45						29. 6	25.44	77.45	10. 3* *9.20	*9. 8	56.2	57.	56 5	57.1	Extremely unsteady.	7	Mostly calm. Some birds at distance. G var. az. 8° 38'°. Bar. 2 P.M. 30.3. 8. 30.3. 10. 30.3½. 8 A.M. 30.3. 8½. 30.3½. 9. 30.3½.
26	70¼	30.3¼	30.3	70¼	30.3	h. sq, r. sq, r. sq. c. r. r. sq, r. sq. sq, r.	S by W. S by E. SE. SE. ESE. ESE. V.	8		1	75.43	78.40						27.17	23.47	78.40								120	Fresh gales, with squalls and rain; sometimes squalls very hard. Great irregular swell. Several birds, chiefly poor Johns or black sheerwaters, being of the colour of the former, and shape like the latter, but without white breasts. Bar. 2 P.M. 30.3. 5. 30.2½. 6. 30.2½. 8. 30.3. 12. 30.2½. 9 A.M. 30.3.
27	71	30.3	30.2½	70¼	30.2	sq, r. sq. sq. sq, r. sq, r. sq. r. sq.	V. E. E by S. E by S. E by N. E. E by N. E by N. E.	37		4	75.41	78.34						25.49	21.42	78.34								89 3443	Fresh gales and squally. Several sheerwaters, or birds like them, of different colours, grey, brown, and blackish; some white breasted and white under the wings. Bar. very unsteady these two days from ship's motion. Great irregular sea. Bar. 2 P.M. 30.2½. 2½. 30.3. 4. 30.2½. 6. 30.2½. 10. 30.3. 12. 30.3. 8 A.M. 30.2½. 9. 30.2½. 10. 30.2½.

1775		Marine Barometer R.	S.	Th.	D.	Weather and Winds.	D. L. A.O. N	S	D. L. A. T.K. W	E	Longitude from Greenwich A.	T.K.	D. ☾ T.K.	☾	S.	O.	E. D.	Latitude A.	O.	Cor. Long.	Magnetical Variation Az.	Amp.	South Dip Face E.	W.	MD.	C.D.		ML.	
	°	In. Dec.	In. Dec.	°	In. Dec.		′	′	′	′	° ′ E	° ′ E	′ E	° ′ E				° ′ S	° ′ S	° ′ E	° ′ W	° ′ W	°	°	°	°		3443	
Oct. 28	72	30.2½	30.2	72	30.1½	sq. sq. r. E. E by S. sq. E by S. sq. c. sq. ESE. E by S. sq. h. E by S. ESE.	16			8	76. 9	79.10						24.17	19.54	79. 4								96	Mostly fresh gales from Eastward, with squalls and rain and a large swell. Several birds as before. A.M. many flying fish. Bar. very unsteady, 1 P.M. 30.2⅛. 4. 30.1⅛. 5¼. 30.2. 6. 30.2. 8. 30.2⅛. 10. 30.2⅛. 12. 30.2⅛. 9 A.M. 30.2⅛.
29	73	30.2½	30.2	73¾	30.1½	c. ESE. E by S. ESE. c. E by S. c. sq. h. ESE. E by S. h. f. E by S. ESE. E by S.		2	8		76.52	79.45	35 56	79.10 78.49	4 4	⊙ ⊙	27 10	22.54	18.33	79.33								93	Fresh gales, with some squalls. Several birds as before. P.M. a large white bird which flapped its wings and flew high, unlike the birds which are found in the main sea. G long. ⊙ and ☾ 77° 39′ E. Bar. 2 P.M. 30.1⅛. 4. 30.1⅛. 6. 30.1⅛. 10. 30.2. 11⅛. 30.2. 8 A.M. 30.2⅛. 9. 30.2⅛. 10. 30.2⅛.
30	75	30.2	30.1½	74½	30.1	f. sq. ESE. E by S. sq. c. ESE. E by S. c. E by S. c. E by S.	5		15		77.39	80.17						21.11	16.45	79.59		4. 4*	46.2	47.2	46.6	47.3	Unsteady.	113	Strong gales, with frequent squalls. Some birds as before. Vast flocks of flying fish. Swell abated. Bar. 2 P.M. 30.2. 3. 30.1⅛. 4. 30.1⅛. 10⅛. 30.2. 12⅛. 30.2. 8 A.M. 30.1⅛. 9. 30.1⅛.
31	77	30.1	30.0½	77	30.0	h. ESE. E by S. h. sq. E by S. sq. r. sq. E by S. E. sq. E. E by N.		3		3	78.10	80.51						19. 8	14.45	80.27	*3.17		44.	45.	44.4	45.1	Ditto.	127	Squally. Few birds as before. Swell increased and weather unsettled. G long. ⊙ and ☽ 79° 8′ E. Bar. 2 P.M. 30.1. 4. 30.1. 6. 30.0⅛. 10. 30.1. 12⅛. 30.1. 6 A.M. 30.0⅛. 8. 30.0⅛. 9. 30.0⅛. 10⅛. 30.0⅛.
Nov. 1	78	30.1	30.0¼	78½	30.0	h. sq. r. E. VE. sq. r. h. E. h. sq. hr. E. VEr. sq. c. VEr.	1			1	78.17	80.59						17.15	12.51	80.29			41.	42.	41.4	42.1	Very steady.	114	Squally. P.M. a tropic bird, which resembles a paroquet in shape, but is of a whitish grey. Swell much abated. G long. ⊙ and ☾ 79° 10′ E. Bar. 2 P.M. 29.9⅛. 4. 30.0. 6. 30.0. 9⅛. 30.0⅛. 12⅛. 30.0. 9 A.M. 30.0⅛.
2	81	30.0¼	30.0¼	81	30.0	h. E by N. h. E by S. E by N. h. V. E. E by N. h. f. E by N. E.			10		78.26	80.58	114 108	79. 4 79.10	8 6	⊙ ⊙	42 30	15.44	11.20	80.22	1.20* *1.12	*1.42	38.6	39.4	39.1	39.7	Unsteady.	92	Moderate breezes, with some squalls. A.M. few birds; the grey white under wings; frequently overcast. A.M. a little more swell from Northward. G var. 2° 3′*, amp. 2° 4′*. Bar. 2½ P.M. 29.9⅛. 6. 30.0. 12⅛. 30.0⅛. 8 A.M. 30.0⅛. 9⅛. 30.0⅛. 11⅛. 30.0⅛.
3	81	30.0½	30.0	80¼	29.9½	f. c. E. c. E. c. f. E. f. E.	5		9		79. 5	81.28						13.47	9.18	80.46	0.59*		35 4	36.4	36.	36.6	Not steady.	123	Pleasant gale, with fair weather. A.M. a bird, larger than a tropic bird, with black wings and white body at a distance, it flapped the wings very much. A head swell. G var. az. 1° 0′*, 0° 52′*. Bar. 2 P.M. 30.0⅛. 6. 30.0⅛. 7½ A.M. 30.0⅛.
4	82	30.0½	29.9¼	82	29.9½	f. c. E. E by S. E. c. f. E. f. E. f. E.	5		13		79.36	81.46	82 41	80.24 81. 5	6 6	*A. A	17 28	11.57	7.23	80.58	0. 3*		32.6	33.6	33.2	34.		114	Major part moderate. P.M. some *Southern lights*, very rare and motionless. Bar. 2½ P.M. 29.9⅛. 6. 29.9⅛. 8. 30.0.
5	82	30.0	29 9½	81½	29.9	h. E. h. E. h. f. E. V. E. f. E.	7		18		80.19	82.11						10. 5	5.26	81.17	*0. 8		29.2	29.6	29.4	30 3	Extremely steady.	119 4434	Fresh gales, with fair weather. P.M. a large bird of the booby kind above the ship; it had a long neck, and was something in shape and size like a wild goose. At night, *Southern lights*, some diverging in rays downwards, some like a rare cloud, very little motion; a faint ring round ☾. A.M. four tropic birds. G var. 4 az. 0° 21′ *E. az. *0° 4′ E. Bar. 2½ P.M. 29.9⅛. 6. 29.9⅛. 1 A.M. 29.9. 8. 29.9⅛.

1775	Th.	Marine Barometer. R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K W	E	Longitude from Greenwich A.	TK.	D. T.K.	☽	S.	O.	E D.	Latitude A.	O.	Cor. Long.	Magnetical Variation. Az.	Amp.	South Dip Face E.	W.	MD.	C.D.		ML.	
	°	In.Dec.	In.Dec	°	In.Dec.		′	′	′	′	° ′ E	° ′ E	′ E	° ′ E				° ′ S	° ′ S	° ′ E·	° ′ E	′ ° E	°	°	°	°		4434	
Nov. 6	2¼	30.0¼	29.9¾	82¼	29.9¼	c. E. c. E. c. E. E by N. E. c. E by N. E.	1		18		80.48	82.22	75	81. 7	5	*F	37	8.24	3.44	81.22	*0. 8		26.2	26.6	26.4	27.3	Very steady.	101	Moderate breezes. *Northern lights* to Northward. Little motion, but great extent, and afterwards *Southern lights*. G var. amp. 0° 48′ *E. Bar. 2 P.M. 29.9⅝. 1 A.M. 29.9⅝. 9. 30.0.
7	83	30.0	29.9½	82½	29.9	h. E. E by S. h. E. E by S. h. ESE. c. SE by E.	9		31		81.46	82.49						6.19	2.30	81.43	1.12*	1. 6*	24.4	25.	24.6	25.5	Not steady, ship laying to for boat.	89	Moderate breezes. G var. az. 0° 45′ *E, amp. 0° 13′ *E. Bar. 2 P.M. 30.0. 6. 29.9⅝. 1 A.M. 29.9⅝. 8. 29.9⅝.
8	83½	30.0¼	29 9¾	82½	29.9¼	h. SE by E. h. E by N. ENE. E. h. sq. E. E by S. f. E by S.	17		20		82.12	82.55						5.17	1.11	81.43			22.	22.2	22.1	23.	Extremely steady.	69	Major part, moderate breezes. A.M. came on board from the *Gaston* Major SEARS and Capt. ALCOCK for Madras, Mr. HORSLEY went aboard that ship for Bombay. Bar. 2 P.M. 29.9. 11. 29.9⅝. 9 A.M. 29.9¾.
9	83¼	29.9¾	29.9	83¼	29.8½	f. V. E. f. E by N. E. f. hr. dr. E. E by N. V. c. E.		14	53		82.31	82.21						4.20	0.18	81. 3			20.	20 4	20.2	21.1	Very steady.	61	Variable winds, with rain at times. Bar. 4 P.M. 29.8¾. 9 A.M. 29.7¾.
10	81¼	29.9¾	29 9	81¼	29.9¾	c. E by S. E. E by S. c. r. c. V. c. V. E by N. E by S. c. sq. E by S. SE by E. SE. SE by E.	3		45		83.19	82.24						3.18	N 0.47	81. 0	0.52*		19.4	19.	19.4	20.1	Not very steady.	81	Mostly fresh breezes. At 10½ A.M. there was to the SE. the appearance of something black like *a rock*, and at the same time like *a shoal*; but it being to windward, and ship having fresh way, could not determine whether it was *a shoal* or the reflection of the Sun behind the clouds. This is nearly the situation of the *Ours*. A man sent to mast-head could not see any thing. Bar. 2 P.M. 29.8½. 9. 29.8¾. 12. 29.8¾. 8 A.M. 29.9½.
11	83½	29.9¾	29 9	83½	29.8¾	h. c. SE by E. c. E by S. ESE. E by S. c. E by S. E. E by S. sq. hr. c. ESE. V.	9		33		84. 5	82.37						2. 3	2. 1	81. 7			15 4	15 6	15.5	16.4		82	Most part the wind Easterly, with some squalls towards the latter end. Bar. 1 A.M. 29.9. 8. 29.9⅝.
12	80¼	29.9½	29.9	80¼	29.8½	sq. r. V. r. L. to nw. f. V. c. sq. r. L. to e. V. E by N. sq. r. V. NE. V.			32		84.25	82.25						1.12	2.52	80.49			15.4	16.	15.6	16.5	Pretty steady, but ship not having steerage-way.	61	Winds variable with unsettled weather. P.M. a bird like a land bird. A.M. many yellow tails; two black birds at a distance like land birds: a white bird with black wings, like a gull. Bar. 2 P.M. 29.8⅞. 4. 29.8. 9. 29.9. 12. 29.9. 8 A.M. 29.9⅞. 10½. 29.9⅝. 11. 29.8¾.
13	82	29 9½	29.8¼	82	29.8½	c. r. c. C. V. C. c. hr. c. L. to s. C. c. C. c. sq. r. c. C. V. NW. V.	2		19		84 33	82.14	95	80.39	3	⊙	28	1.12	2.54	80.32			14.4	15.4	15.	15.7	Very steady.	8	Light airs and calms, with hard rain. Many fish, porpoises, &c. A.M. a mottled grey bird of the booby kind. The ⊙'s limb not distinct when longitude observed. Bar. 2½ P.M. 29.8½. 12½. 29.8¾. 7½ A.M. 29.8¾. 8½. 29.9¾.
14	82	29.9½	29.8¼	82	29.8½	c. sq. hr. NW by W. V. c. V. NW. C. c. C. V. W by S. c. r. c. W by S. SW. SSW.			2		85. 0	82.39						1. 7	2.59	80.51			15.	16.	15.4	16.3	Not very steady.	28	Winds and weather very unsettled. P.M. a sea bird like a plover: many fish. P.M. caught a shark. A.M. saw a sail. Bar. 2 P.M. 29.8¼. 4. 29.8¾. 12¾. 29.9. 8 A.M. 29.9¾. 11½. 29.9.
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1775	Th.	Marine Barometer. R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A.T.K. W	E	Longitude from Greenwich A.	TK.	D.☽ T.K.	☽	S.	O.	E.	Latitude A.	O.	Cor. Long.	Magnetical Variation Az.	Amp.	South Dip Face E.	W	MD.	C.D.		ML.	
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′	° ′	′	° ′				° ′	° ′	° ′	° ′	° ′	°	°	°	°			
																												5014	
Nov. 15	81¼	29.9½	29.9	81¾	29.8½	c. sq, r. sq, hr. V. c. sq. r. V. W by N. W by S. r. sq, r. c. W by S. SSE. SSW. c. SW.			19	2	E 86. 9	E 83.46	E	E				S 0.57	N 2.50	E 81.52	W	W	14.4	14.6	14.5	15.4		71	Mostly variable wind and rain. P.M. a sail; shewed French colours on firing a gun to speak with her, but did not shorten sail. Several birds and many fish. Bar. 2 P.M. 29.8½. 6. 29.9. 12. 29.9½. 8 A.M. 29.9½.
16	81	30.0	29.9¼	80½	29 9	c. sq, hr. SW. S. hr. V. S by W. hr. c. S by W. SW. c. r. c. SW.			9	6	87. 5	84.48	76	83.32	4	⊙	18	0.46	2.52	82.48			13.4	14.	13.6	14.5	Very steady.	57	First part, mostly squally with very heavy rain. Middle and latter, light airs and cloudy with some rain. ⊙'s limb not very distinct when *long.* observed. Bar. 2 P.M. 29.8½. 4. 29.8½. 10. 29.9½. 12. 29.9½. 8 A.M. 29.9½. 9. 30.0.
17	80	29.9½	29.9	80	29.8¼	sq, hr. c. sq. S. V. c. hr. c. sq, hr. S by W. SSE. SE. sq, hr. V. S by E. r. c. S by E. C.	21			18	88. 2	86. 3						0.32	3.27	83.57			14.4	15.2	14.7	15.6		59	Very unsettled weather with rain. Bar. 1 P.M. 29.9½. 2. 29.9. 4. 29.9. 9½. 30.0. 1 A.M. 29.9½. 9. 29.9½. *At first the dipping-needle had no motion,* but with the face East was at 12°½; when moved a little, *it remained motionless:* when moved with the face to West, *the needle turned round, and stood any where.* Moved several times, it pointed with face E 14½ W 15½ Very steady.
18	83½	30.0	29.9½	83½	29.9	sr. c. C. E. E by S. c. r. E by S. r. c. E. E by N. NE by E. c. sq. NE by E. NE by N. N by E.	6			9	88.16	86.26						0. 3	4. 2	84.13			11.1	11.5	11.3	12.2	Pretty steady.	38	Mostly light breezes. P.M. saw two dolphins, heard a tropic bird in night. A.M. caught two dolphins. *Dipping-needle pretty steady, and no appearance of defect as yesterday.* Bar. 2 P.M. 29.8½. 4. 29.8½. 12½ A.M. 29.9. 8. 29.9½. 11. 29.9½.
19	83	29.9½	29.9	83	29.8¾	c.sq,r.sq,th,L,hr.NNW. NW. V. sq. th, L, hr. V. C. V. C. r. c. V. N. c. r. c. N. N by E. NE by N.			18	19	88.57	87.26						0. 3	3.44	85. 7			10.6	11.2	11.	11.7		44	Variable winds, with rain. P.M. a swallow with short wings and white breast. A.M. a small land bird shaped like a water wag-tail, but in colour like a linnet, with a few yellowish feathers in the flank. A.M. a bird at distance like a gannet. Bar. 2 P.M. 29.8½. 4. 29.8½. 6. 29.8½. 1 A.M. 29.9½. 8. 29.9½.
20	82½	30.0	29.9½	82½	29.9	sq, sr. sq. NE by N. NE. sq.sq,L,hr.hr. NE by E. E by N. NE by E. ENE. NE. hr. sq. V. SE by E. SE. SSE. c. sq, flying sh. SSE. S by W.			30	13	90.27	89. 9						0.17	3. 0	86.40			11.4	12.2	11.7	12.6	Not very steady.	102	Fresh breezes, with some squalls and a great deal of rain. The land bird aboard still. P.M. heard a bird, supposed to be a booby. A.M. passed a drift; a grey sea bird shaped like a plover. A black sea bird at a distance. Bar. 1 P.M. 29.8½. 6. 29.8½. 1 A.M. 29.9. 7½. 29.9½. 9. 29.9½. 10. 29.9½. 11. 29.9½. 11½. 29.9½.
21	80¼	30.0¼	29.9¼	80½	29 9½	r. SW. V. r, L. to nw. V. C. V. h. V. C. h. r. h. C. V. W. V. N.	15			27	90.54	90. 3						0. 3	3.29	87.28			10.2	10.6	10.4	11 3	Very steady.	30	Variable, with rain and calms. The land bird aboard still. A.M. saw a tropic bird. Passed a drift. Light airs. Bar. ½ P.M. 29.9½. 2. 29.9. 4. 29.9½. 6. 29.9½. 7. 29.9½. 12½ A.M. 29.9½. 8. 29.9½. 10. 30.0.
22	81¼	30.0	29.9½	81¼	29.9	c. sq. N. N by W. sq. hr. c. r. N by W. C. SE by S. V. r. V. r. c. NE by E. C.	14			55	91.17	91.21						N 0. 9	3.55	88.39			10.6	11.2	11.	11.7	Very steady, but ship not having steerage way.	30	Major part, light breezes, with some rain. The land bird aboard still. P.M. saw a booby, some fish of the porpoise kind. A.M. a horse fly, several riplings, and many fish. Water luminous at night. Bar. 4 P.M. 29.9½. 5. 29.9½. 12½ A.M. 29.9½. 7. 29.9½. 8½. 30.0. 9. 30.0. 10½. 30.0
23	82		29.9½	82		c. C. E. V. c. V. E by N. c. h. NE by E. NE. h. NE by E. NE. NNE.	6			8	91. 8	91.20						0.45	4.37	88.31			7.6	8.4	8.1	9.	Very steady.	39	First part, calm. Latter, light breeze from NE. with hazy weather. The land bird aboard still. A.M. several tropic birds. Passed a bamboo adrift. Water luminous at night. Bar. 4 P.M. 29.9½. 6. 29.9. 14½ A.M. 29.9½. 8. 29.9½. 9. 30.0.
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1775	Th.	Marine Barometer. R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A.T.K. W	E	Longitude from Greenwich A.	TK.	D. ☽ T.K.	☽	S.	O.	E. D.	Latitude A.	O.	Cor. Long.	Magnetical Variation. Az.	Amp.	South Dip Face E.	W.	MD.	C.D.				ML.	
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′ E	° ′ E	′ E	° ′ E			′	° ′ N	° ′ N	° ′ E	° ′ E	° ′ E	°	°	°	°		By estimation.			
Nov. 24	82¼	30.0¼	29.9	82¼	29.9	f. NNE. NE by N. NE. f. NE. r. f. NE by N. f. sq, r. c. NE.		10	32		90.29	90. 9						1.37	5.19	88.13		0.53*	7. 6.4	7.2 6.6	7.1 6.5	8. 7.4	h. m. 11. 0PM 9. 0AM	N.lat. 4.39 5.21	Long. 88.29 88.26	5484 73	Moderate breezes, and mostly fair. The land bird aboard still. A.M. saw a ship, the Dudley, Capt. BARRINGTON, from Madrass to the Nicobars and Pegu; the Captain came on board. At 10 saw another ship. Bar. 6 P.M. 29.9. N.B. *Standing to SW.* from 10 A.M. to 1 P.M. *the dipping needle increased in dip, the distance was above 10 miles*
25	82	30.0¼	29.9¾	82	29.9¼	c. sq. NE. V. sq. c. r. V. E by N. sq, r. V. ENE. sq. c. sq. NE by E. NE.		19	43		90.13	89.10						2.50	6.13	87. 7			8.2 6.2 5.6 5. 4.4	8.4 6.6 6.2 5.4 5.	8 3 6.4 6. 5.2 4.6	9.2 7.3 6.7 6.1 5.5	Very steady. 1. 0PM 9.15 12.30AM 9.10 0.30 PM	5.17 5.23 5.45 6. 4	88.18 88.10 88.11 87.25	81	Winds from NE. with frequent squalls and rain. The land bird aboard still. 1 P.M. spoke the ship Flyer, from Madrass to Malay Coast, Capt. RICH. Water luminous. Sea bird shaped like plover, grey with upper part of head black, and wings tipped with black. Same bird seems to have been about ship several days. Bar. 5 P.M. 29.9. 6. 29.9. 1 A.M. 29.9¼. 8. 30.0. 9. 30.0¼. 11. 30.0¼.
26	82	30.0¼	29.9¾	81½	29.9¼	sq, sr. c. sq, r. V. NE. V. sq, r. sq. c. NE. V. c. V. NE by E. c. sq. NE. NE by E. V.		8	30		90 19	88.46						3.23	6.38	86.36			5 4	6.2	5 7	6.6	Very steady.			87	Fresh gales and squally throughout. The land bird aboard still. Sea very luminous. P.M. a small mew came on board. Bar. 2 P.M. 29.9¼. 10. 30.0. 1 A.M. 29.9¼. 8. 30.0.
27	83½	30.0¼	29.9¼	83½	29.9¼	sq. sq, r. NE. V. c. L. all round. V. E by N. sq. h. L. all rd. E. E by N. h. E by N.		3	55		90.48	88.20	79	87. 1	5	⊙	43	3.28	6.40	86. 3			4.2	4.6	4.4	5.3	Very unsteady.			64	Winds most Easterly, with squalls and rain. Sent a boat on board a country snow with red colours; she was bound from *Travankor* to *Achem*. Sight ⊙ not very good. Bar. 4 P.M. 29.9¼. 6. 29.9¼. 12¼ A.M. 29.9¼. 8¼. 30.0¼.
28	84½	29.9¼	29 9¾	84½	29.9	c. E by N. c. E by N. ENE. E by N. c. sq. E by N. E. sq. c. E by N.	4		20		90.50	88. 2	142	85.40	6	⊙	38	4.46	8. 2	85.40			3. 1.6	3.4 2.2	3.2 2.	4.1 2.7	1. 0AM Very steady. 0.30 PM	7.20 8. 5	86. 2 85 40	78	Moderate breezes, and mostly cloudy. Bar. 2 P.M. 29.9¼. 4. 29.9. 6. 29.9. 12¼ A.M. 29.9¼. 8. 29.9¼. 11. 29.9¼.
29	84½	30.0¼	30.0	84½	29.9¼	sq, r. c. sq. V. E. sq, r. c. V. ENE. c. ENE. c. h. NE by E. ENE. NE by E.	15		13		90.39	87.38	152 139 160	85. 6 85.19 84.58	5 7 6	⊙ ⊙ ⊙	37 20 21	5.57	9.28	85.10			0.4 0.2 0.0 ND. 0.2 1.2 1.2	1. 0.6 0 4 0.2 ND. 1.6 1.4	0 6 0.4 0.2 0.0 ND. 1.4 1.3	1.5 1.3 1.1 0.7 0.5 0.4	Very steady, though ship pitching. 6.30 9. 0 11.10 Very steady. 1. 0AM Pretty steady, 9. 0 0.45PM. Not very steady.	8.20 8.25 8.30 8.35 9.14	85.39 85.38 85 37 85 36 85.15.	72 5939	Increasing breeze from Eastward, with squally weather and rain. Bar. 3 P.M. 29.8¼. 4. 29.8¼. 6. 29.9. 1 A.M. 29.9. 9. 30.0. 10. 30.0.

1775	Th.	Marine Barometer R.	Marine Barometer S.	Marine Barometer Th	Marine Barometer D.	Weather and Winds.	D L A.O. N	D L A.O. S	D. I. A. T.K. W	D. I. A. T.K. E	Longitude from Greenwich A.	Longitude from Greenwich T.K.	D. ☾ T.K.	☾	S.	O.	E. D.	Latitude A.	Latitude O.	Cor. Long.	Magnetical Variation Az.	Magnetical Variation Amp.	Magnetical South Dip Face E.	Magnetical South Dip Face W.	Magnetical South Dip MD.	Magnetical South Dip C.D.		ML.	
	°	In.Dec.	In.Dec.	°	In.Dec.		′	′	′	′	° ′ E	° ′ E	′ E	° ′ E				° ′ S	° ′ S	° ′ E	° ′ E	° ′ E	°	°	°	°		5939	
Nov. 30	84½	30.2¼	30.0	85	29.9½	c. c. c. h. h.	11			5	90.15	87.19						7.13	10.55	84 55			4.	4.4	4.2	3.3	Very steady.	79	Moderate breezes, and mostly hazy. Bar. 3 P.M. 29.9½. 5. 29.9½. 8 A.M. 30.0.
Dec. 1	78		30.0	77½		h. h. h. c. sq, r. sq, r. sq, hr.		9	6		90.36	87.34						7.24	[11. 1]	85.15			3.6	4.2	4.	3.1	Pretty steady.	61	Variable winds and weather, with much rain. A.M. a small land bird, probably same we lost some days ago. Bar. 1 P.M. 30.0. 3. 29.9½. 4. 29.9½. 6. 29.9½. 9½. 30.0½. 12½ A.M. 29.9½. 7½. 30.0. 8. 30.0½. 8½. 30.0½.
2	82½	30.0	29 9½	82	29.9½	sq, r. r. r. c. c. c.			5		91.20	88.13						7.17	10.50	85.58			2.2	2.6	2.4	1.5	Not steady.	52	First part, squally with rain. Past 6 P.M. weather looked very black and threatening, but the barometer did not fall, and it came to nothing. Middle and latter, moderate. A.M. the same land bird. Bar. 1 P.M. 29.9½. 2½. 29.8¾. 4. 29.9. 6. 29.9. 9½. 30.0. 12½ A.M. 29.9½. 6. 29.9. 7½. 29.9½. 8½. 29.9½. 11½. 29.9½.
3	83½	30.0	29.9	83½	29.9	c. c. c. h. h. f.		8		9	92. 4	89. 6	97	87.29	4	*A *P	43	7. 8	10.33	86.49			3.	3.6	3.3	2.4	Not very steady.	47	Decreasing breeze, with pleasant weather. A.M. the same land bird. A small mew about ship. Bar. 2½ P.M. 29.9. 4. 29.9. 7. 29.9½. 12. 29.9½. 7 A.M. 29.9½. 7½. 29.9½.
4	83	30.0	29.9½	83½	29.9	h. h. c. L. to nw. c. c.		4		3	92.16	89.21	116	87.25	6	*A	12	7.52	11.13	87. 2	1.32*	1.41*	5.4	5.6	5.5	4.6	Very steady.	52	Mostly light airs. A.M. the same land bird. Bar. 2 P.M. 29.8½. 6. 29.8½. 10. 29.9½. 12. 29.9½. 7 A.M. 29.9.
5	84	30.0¼	29.9¼	83½	29 9¼	h. h. h. f. f.	2			5	91.58	89. 8						8.39	12. 2	86.47	*1.12	*1.22	6.6	7.2	7.	6.1	Very steady.	50	Light breezes. A.M. the same land bird. P.M. a land bird, it flew like an owl. Bar. 3 P.M. 29.9. 4. 29.9½. 7. 29.9½. 7 A.M. 29.9½. 11½. 29.9½.
6	83	30.0	30.0	83½	29.9	f. f. sq, r. sq, sr. sq, hr. c. c.		9	9		91.16	88.17	137	86. 0	6	*P	28	9.42	12.56	85.44			7.6	8.2	8.	7.1	Pretty steady.	75	First part, moderate breezes. Middle and latter, squally. The same land bird on board. A sand lark on board. Saw a snow standing to N°1: it hoisted English colours. Bar. 4 P.M. 29.9½. 7½. 30.0. 7¾, *in squall*, 29.5¾. 10. 30.0. 11½ A.M. 29.9½. 12¾, *before hard rain*, 29.9. 29.9½. 8½. 30.0. 9½. 30.0.
7	80½	30.0¼	30.0¼	80½	29.9¼	c. c. c. c. f.		12	17		89.26	86.10						11. 0	14. 2	83.45			8.6	9.2	9.	8.1	Pretty steady.	134	Fresh gales, with pleasant weather. The same land bird on board. A mottled bird came on board. Bar. 2½ P.M. 29.9½. 4. 29.9½. 6. 29.9½. 10. 30.0. 8 A.M. 30.0½. 11. 30.0½.
8	81¼	31.0½	31.0	81½	30.0½	h. c. f. f. f. h.		12	3		87. 9	83 50	188 205	80.42 80.15	5 6	*A *A	36 43	11.27	14 17	81.23			9.2	9.6	9.4	8.5	Very steady.	135	Fresh breeze throughout. A small land bird aboard. Bar. 2½ P.M. 29.9½. 4. 30.0. 6. 30.0. 1 A.M. 30.0. 30.0½. 5. 31.0½.
																												6624	

1775	Th.	Marine Barometer. R.	S.	Th.	D.	Weather and Winds.	D.L. A.O. N	S	D.L. A. T.K. W	E	Longitude from Greenwich A.	TK.	D. ☽ T.K.	☽	S.	O.	E D.	Latitude A.	O.	Cor. Long.	Magnetical Variation. Az.	Amp.	South Dip Face E.	W.	MD.	C.D.		M L.
	°	In.Dec	In.Dec	°	In.Dec.		′	′	′	′	° ′ E	° ′ E	′ E	° ′ E			′	° ′ N	° ′ N	° ′ E	° ′ E	′ ° E	°	°	°	°		
cc. 9	80		30.1	79½		h. ENE. h. ENE. h. E. h. E. ENE.		22	1		86.18	82.56						11. 9	13.37	80.42				5.6	6.2	5.	5.1	Very steady.	
10 1776 Sept						f. ENE		6 in 5½ hours.			86.14							10.47	[13. 9]									
10	At anchor in Madras Road, in the Grenville's cuddy (cabbin before the round-house)																		13. 7				5.6	6.6	6.2	5.3		
	Ashore, in the fort of the Company's house near the church,																		13. 8				5.6	5.6	5.6	4.7		
28	Ditto,																						5.6	6.	5.7	5.		
Oct 3	Ditto,																						5.6	6.	5.7	5.		

By the *latitude* observed at noon, the 9th of December, and the bearings of PULICAT *Flag staff*, we were then from *Fort St. George*,	° ′ 0.13E	° ′ 80.42 Longitude 9th noon by map.
Longitude of FORT ST. GEORGE, by *eclipse* of *Jupiter's first satellite*,	80.29	82.56 Longitude by Time-keeper.
Longitude of 9th noon, by *map*,	80.42	2.14 Error of Time-keeper since 18th Sept. in 83 days.
Longitude by mean of 52 ☽ *observations*,	80.28	
Difference,	.14	

N.B. All the *observations* of the *dip* were taken with the *needle* standing on the *table* in the Grenville's *round-house* towards the *starboard side* of the ship, except 2d, 3d, 6th, and 8th of October 1775; and 10th and 28th of September, and 3d of October 1776.

N. B. There being a very considerable difference in the position of Fort St. George according to the different observers, I have annexed a view of them.

° ′ ″
Lat. 13. 8. 0 N. 7th Oct. 1776, A.D. on board the *Swallow* sloop of war { ⊙ merid. alt. / ⊙ double alt. } by a *Hadley* made by Bird.
13. 8. 0 { 1761, Rev. Mr. Hirst, many obs. made not long ago with an *excellent quadrant* (vide Ph. Tr. vol. LII. part I. p 396). N.B. It does not clearly appear whether these obs. were made by Mr. Hirst or by some *other person*.
13. 8. 0. { *Several observations* by Mr. William Nicholson, master of the Elizabeth man of war, p. 48. Remarks and Observations made on a voyage to the East Indies.
13. 7. 0 Major James Rennell, surveyor-general of Bengal.
13. 4 54 Major William Stevens, chief engineer of Fort St George.
13. 4 47 Rev. Mr. William Smith, alt. of *, some to Northward, some to Southward.
By a survey which has been made of the *country* from FORT ST. GEORGE to *Allamparva*, *Allamparva* is 17 Italian miles, or 14′.36″ W of Fort St. George.
From PONDICHERRY, by M. D'après, *Allamparva* is 13. E.
Fort St. George Eastward of Pondicherry, 27.36

Long. from Greenwich.
° ′ ″
80.28.45 Hon. Thomas Howe, eclipse of Jupiter's first satellite, 5th July 1755.
80.15. 0 A.D. mean of 52 ☽ observations, compared together by the Time-keeper, in this Journal.
80.24. 0 A.D. ⊙ and ☽ 7th Oct. 1776, 3 sights ext. diff. 16′.
80. 2.15 Rev. Mr. Hirst, *Transit of Venus* 1761.
80.41. 0 Rev. Mr. Smith, by Dr. Maskelyne's calculation, } Em. 27th May 1777.
81. 1.45 Ditto, by Mr. Smith's calculation, }

PONDICHERRY, by M. Le Gentil 1769, is in 11°.55′.42″ N. 79°.52′.30″ E long. from Greenwich.
27.36
Which places *Fort St. George* in 80.20. 6

9th December.
Pleasant gale. At 2½ P.M. had soundings, 28 fath. gravelly sand; and at day-light saw the land bearing SW by W.

h	Weather.	Winds.	Course	K.F.	Soundings.
2	h.	E	WSW	1.5	30. no ground.
2½					25. gravelly sand.
3			SbE½E	1.	20. 19. 18. 17. ditto.
4				2.	16½. 18. 17½. 20. ditto.
5			SSE	2.	25. 25½. 26. ditto.
6				2.	25½. 25. blue mud.
7				2.	25½. 26. ditto.
8				2.	26. 27. ditto.
9				2-3	27. 26. 25.
10		ENE		3.	25. 24½.
10½			S	2.2	23. 21. 20. 19. 18½. 18.
11			S by E	2.	18. 17½. 17½. 17.
12			SSE	4.	18. to 25.

At 6h. 30. Armegon Hill, W 13° N 10 or 12 miles off shore. Southernmost part in Pulicat Ridge in *sight*, SW. The extreme in haze.
At 9h. 40. ⊙ A Hill or Grove, W 11° S.
° ′
R 28.30 Sandy Point of Armegon.
35.16 White Building.
43.38 Ext. in sight to the Northward.
L 4.37 Highest Peak of Pulicat Ridge.
14.25 Kettle Bottom, ditto.
22.40 Ext. in sight to the Southward.
At noon, * PULICAT Flag-staff, S 52° W.
R 33. 6 Kettle Bottom, Pulicat Ridge.
46.30 Highest Peak, ditto.
50. 0 Sandy Point.
L 5. 0 Point to Southward of Pulicat.
19.30 Tuft near South ext. in sight.

10th December.

h	Weather.	Winds.	Course.	K.F.	Soundings.
1	f.		S	4.5	27. 23.
2			S by W	4.5	20. 13.

At 5h. 30′. Anchored in Madras Road in 10½ fath.
* FORT ST. GEORGE Flag staff, S 81° W. about 4 miles off shore.
° ′
R 14.31 Obelisk and Punch-house in one.
18.15 Armenian Church.
49.12 White-house on the Sea-beach.
L 18.47 Nabob's White Building.
25. 9 St. Thomas's Mount.
28.40 Triplicane Pagoda.
29. 6 Peak of 4 Sierras.

	6624
	86
	22
To the *Cape*	6732
	8479
	15,211

In the explanation of *weather* dr. denotes *drizling rain*, and a comma (,) after any *weather* marked, implies that *all* the *weathers*, ſo ſeparated by *comma*, are connected: thus, ſq, r, th, L. imply *ſqually* with *rain*, *thunder* and *lightning*: ſq. r. th, L. imply *ſqually*, *rain*, *thunder* and *lightning*, to have all been in the period of ſix hours, but not at the ſame time.

In the explanation of the 5th column, *for* N denoting that the *obſervation* read N denoting that the *latitude* by *obſervation*.

For	D.L. A.O. N	D.L. A.O. S	D.L. A. T.K. W	D.L. A. T.K. E	Long. from Gr. A.	Long. from Gr. TK.	Latitude A.	Latitude O.	*Read*	D.L. A.O. N	D.L. A.O. S	D.L. A T.K. W	D.L. A T.K. E	Long. from Gr. A.	Long. from Gr. T.K.	Latitude A.	Latitude O.
	′	′	′	′	°E′	° ′	° ′	° ′		′	′	′	′	° ′	° ′	° ′	° ′
May 2d, — — — —	–	9	–	–	—	—	—	—	—	9							
4th, — — — — —	–	31	–	–	—	—	—	—	—	–	23						
8th, — — — —	–	39	–	–	—	—	—	—	—	–	19						
9th, — — — —	–	11	–	–	—	—	—	—	—	–	10						
10th, add 4′ to Lat. A till 15th inclusive, and —	–	–	–	–	—	—	39.26	—	—	–	–	–	–	—	—	39.30	
14th, — — — —	–	20	–	–	—	—	—	—	—	–	26						
15th, — — — —	–	25	–	–	—	—	—	—	—	–	20						
18th, in column D. ☽ T.K. *for* W *read* E																	
22d, — — — —	–	18	–	–	—	—	—	—	—	–	16						
27th, ſubtract 10′ from Lat. A till 20th of June inclusive, and	–	–	–	–	—	—	15.32	—	—	–	–	–	–	—	—	15.22	
June 1ſt, ſubtract 10′ from Long. A to 25th of June inclusive, and	–	–	–	–	16.51	—	—	—	—	–	–	–	–	16.41			
5th, — — — —	–	–	–	20	—	—	—	—	—	–	–	–	19				
9th, — — — —	–	–	–	–	—	14. 1	—	—	—	–	–	–	–	—	14 15		
21ſt, ſubtract 11′ from Lat. A till 1ſt July inclusive, and	–	–	–	–	—	—	3.45	—	—	–	–	–	–	—	—	3.34	
26th, — — — —	21	–	–	–	10. 2	—	—	—	—	18	–	–	–	10.16			
27th, — — — —	–	–	–	–	10. 6	—	—	—	—	–	–	–	–	10.20			
28th, — — — —	–	–	–	–	11.10	—	—	—	—	–	–	–	–	11.24			
29th, add 13′ to Long. A till 2d Auguſt inclusive, and	–	–	–	–	12.18	—	—	—	—	–	–	–	–	12.31			
July 2d, — — — —	–	–	–	–	—	—	0.22 S	—	—	–	–	–	–	—	—	0.33 S	
3d, — — — —	–	–	–	–	—	—	1. 6	—	—	–	–	–	–	—	—	1.23	
4th, add 21′ to Lat. A. till 19 Auguſt inclusive, and —	–	–	–	–	—	—	2.13	—	—	–	–	–	–	—	—	2.34	
24th, add 2′ to Long. T.K. till 28th July inclusive, and	–	–	–	–	—	28.12	—	—	—	–	–	–	–	—	28.14		
28th, — — — —	–	–	9	–	—	—	—	—	—	–	–	–	9				

For	D.L. A.O. S	D.L. A.O.	D.L. A. T.K. W	D.L. A. T.K. E	Long. from Gr. A.	Long. from Gr. T.K.	Latitude A.	Latitude O.	*Read*	D.L. A.O. N	D.L. A.O. S	D.L. A. T.K. W	D.L. A. T.K. E	Long. from Gr. A.	Long. from Gr. T.K.	Latitude A.	Latitude O.
	′	′	′	′	° ′	° ′	° ′	° ′		′	′	′	′	° ′	° ′	° ′	° ′
July 29th, add 6′ to Long. T.K. till 10th August inclusive, and	–	–	3	–	—	27.56	—	31.33	—	–	–	–	3	—	28. 2	31. 3	
Aug. 3d, add 11′ to Long. A. to 9th August inclusive, and	–	–	–	–	13.56	—	—	—	—	–	–	–	–	14. 7			
10th, subtract 11′ from Long. A. till 18 August inclusive; and subtract 6′ from Long. T.K. till 12th August inclusive,	–	–	–	–	—	2.25	—	—	—	–	–	–	–	—	2.19		
13th, subtract 4′ from Long. T.K. till 18th August inclusive, and	–	–	–	–	—	7.26	—	—	—	–	–	–	–	—	7.22		
14th, — — — —	–	16	–	–	—	—	—	—	—	16							
19th, — — — —	–	–	–	–	—	19. 9	—	—	—	–	–	–	–	—	19. 5		
Sept. 20th, subtract 10′ from Long. A. till 8th Dec. inclusive, and	–	–	–	–	21.26	—	—	—	—	–	–	–	–	21.16			
27th, subtract 20′ from Lat. A. till 16th Oct. inclusive, and	–	–	–	–	—	—	36.40	—	—	–	–	–	–	—	—	36.20	
Oct. 17th, subtract 59′ from Lat. A. till 22d inclusive. —	–	–	–	–	—	—	34.57	—	—	–	–	–	–	—	—	33.58	
23d, — — — —	–	–	–	–	—	—	29.55	—	—	–	–	–	–	—	—	29.17	
24th, subtract 41′ from Lat. A. till 10th of Nov. inclusive, and	–	–	–	–	—	—	29. 4	—	—	–	–	–	–	—	—	28.23	
Nov. 5th, — — — —	7	–	–	–	—	—	—	—	—	5							
9th, — — — —	–	14	–	–	—	—	—	—	—	–	4						
11th, subtract 31′ from Lat. A. till 17th inclusive, and —	–	–	–	–	—	—	2. 3	—	—	–	–	–	–	—	—	1.32 N	
18th, — — — —	–	–	–	–	—	—	0. 3	—	—	–	–	–	–	—	—	0.28	
19th, — — — —	–	–	–	–	—	—	0. 3	—	—	–	–	–	–	—	—	0.28	
20th, — — — —	–	–	–	–	—	—	0.17	—	—	–	–	–	–	—	—	0.14	
21st, — — — —	–	–	–	–	—	—	0. 3 N	—	—	–	–	–	–	—	—	0.28	
22d, add 31′ to Lat. A. till 9th Dec. inclusive, and —	–	–	–	–	—	—	0. 9	—	—	–	–	–	–	—	—	0.40	
Dec. 9th, — — — —	–	–	–	–	86.18	—	—	—	—	–	–	–	–	86. 8			
10th, — — — —	–	–	–	–	86.14	—	—	—	—	–	–	–	–	86. 2			

N. B. The ship having an iron tiller, and much iron about the after part, it was found, the observations taken in the cabbin were not consistent or meriting confidence. From *Anjengo* they were all taken on the binnacle, which seemed to be the only fit place in the ship.

1776		Lat.	Long.	Magnetical Variation Az.	Magnetical Variation Amp.	Magnetical South Dip Face E.	Magnetical South Dip Face W	Magnetical South Dip MD.	Magnetical South Dip C.D.	
		° N,	° E,	° ′ W	° ′ W	°	°	°	°	
Oct. 14	Ashore at *Trinquemalé* on Ceylon.	8.32	81.30			3.6	3.6	3.6	4.5	
26	At anchor 10 fath. sand and shells, *Anjengo* Road.	8.41	76.54	1.12*	1.13*	3.4	3.4	3.4	4.3	Very steady.
30		9.58	75. 4			1.6	1.6	1.6	2.5	Pretty steady.
31		9.54	74.24	1. 3*	0.53*	2.1	2.1	2.1	3.	Ditto.
Nov. 1	Off *Kalpeny*. Lacadivé Isl.	9.57	73.35	1.25*		1.7	1.7	1.7	2.6	Not very steady.
2	Off *Schenlpar*. Lacadivé Isl.	9.59	72.30			1.5	1.5	1.5	2.4	Pretty steady.
3		9.38	71.18			2.7	2.7	2.7	3.6	Ditto.
4		9.49	70.26	1.30*		3.2	3.2	3.2	4.1	Ditto.
5		9.53	69.11	2.12*	1.54*	3.	3.	3.	3.7	Ditto.
6		9.55	67.35			3.	3.	3.	3.7	Not very steady.
7		10.43	65.30	4. 0* *4. 4	4. 3* *4.18	1.4	1.4	1.4	2.3	Ditto.
8		11.57	63.22	4.23*		ND. 0.4	ND. 0.4	ND. 0.4	0.3 ND.	Not steady, but taken when most at rest.
9		12.45	60.34	5.15* *5.37		3.	3.	3.	2.1	Very unsteady.
10		12.59	57.21	6. 0* *7. 4	6. 6*	4.	4.	4.	3.1	Pretty steady.
11		13.29	55.12	7.30* *8.24	7.54*	5	5.	5.	4.1	Ditto.
12	Off *Socotra*.	13.16	52.55	7.57*	8.15*	5.4	5.4	5.4	4.5	Ditto.
13		13.28	50.58	9.20* *8.59	8.58* *9. 0	5.6	6.6	6.2	5.3	Very steady.
14	In sight of *Coast* of *Arabia*.	13.51	49.37	9.35*	9.32*	7.2	8.6	8.	7.1	Quite steady.
15	Ditto.	13.37	48.33	9. 1* *8.46	9.30* *9.30	8.	9.	8.4	7.5	Ditto.

1776		Lat.	Long.	Magnetical Variation Az.	Magnetical Variation Amp.	Magnetical North Dip Face E.	Magnetical North Dip Face W.	Magnetical North Dip MD.	Magnetical North Dip C.D.	
		° ′	° ′	° ′	° ′	°	°	°	°	
Nov. 16	In sight of *Coast* of *Arabia*.	12.54	47. 4	9.31* *10.38	9.39* *10.35	6.2	7.2	6.6	5.7	Pretty steady.
17	*Cape Aden* in sight.	12.41	45.25	*11.25	*11.30	6.2	7.2	6.6	5.7	Ditto.
18		12.38	[44. 5]	11. 3* *11.14	11. 5* *11.18	7.2	8.2	7.6	6.7	Ditto.
20	At anchor at *Mocha*.	13.22	44.10	11.35*	11.22*	8.6	9.6	9.2	8.3	Ditto.
21	Ditto.	13.22	44.10		11. 2*	8.4	9.4	9.	8.1	Not steady, much wind.
	Ashore at the *Company's factory*.	13.20	44.11			9.2	9.6	9.4	8.5	
22	In sight of *Gebel Zeker*.	14.24	43.35		11.11*	12.4	12.4	12.4	11.5	Pretty steady.
23	In sight of *Gebel Tar*.	15.29	43.12	13.10* *13.14	12.50*	14.2	14.2	14.2	13.3	Very steady.
24	Ditto.	16. 2	42.49	14. 3* *12.57	13.53*	15.6	15.6	15.6	14.7	Ditto.
25		16.24	42.22	14. 2* *13.31	14.10*	16.6	16.6	16.6	15.7	Ditto.
26		17. 5	41.54	13.44*	13.50*	19.1	19.1	19.1	18.2	Ditto.
27		18.14	41. 0	13.54*	13.58*	20.6	21.	20.7	20.	Pretty steady.
28		19.36	40.30	13.12* *12.56	13.19* *12.42	24.2	24.6	24.4	23.5	Ditto.
29	Off *Judda*.	20.59	39.56	12.52*	12.59*	26.7	26.7	26.7	26.	Ditto.
30		21.43	39. 3		12.49*	29.6	29.6	29.6	28.7	Very unsteady, much wind and pitching.
Dec. 1	In sight of *Coast* of *Abyssinia*.	21.56	37.57				about	30.		Very unsteady.
2		22.44	38.24			31.6	32.6	32.6	32.	Not very steady.
3		22.46	38.11			32.	32.	32.	31.2	Pretty steady.
4		22.54	37.44			32.4	32.4	32.4	31.6	Not very steady.
6	At anchor on *Coast* of *Arabia*.	24.16	38.29			34.6	34.6	34.6	34.	Pretty steady.
7	Off *Coast* of *Arabia*.	24.17	38.21	14.52*	15. 0*					

1776		Lat.	Long.	Magnetical Variation Az.	Variation Amp.	South Dip Face E.	Face W.	MD.	C.D.	
		° ′	° ′	°E ′	°E ′	°	°	°	°	
Dec. 8	Ashore on a *small island* on *Coast* of *Arabia*.	24.17	38.30			35.	35.	35.	34.2	Much wind.
9	At anchor at *Barredy*.	24.16½	38.30		14. 1*	35.	35.	35.	34.2	Pretty steady.
10					13 50*	35.	35.2	35.1	34.3	Very steady.
11		24 16½	38.30		13.50*	35.	35.	35.	34.2	Not very steady, good deal of wind.
14						35.2	35.2	35.2	34.4	Very steady.
15		24.19	38.18			35.	35.	35.	34.2	Not steady, swell from S^d.
17		24.25	36.30			35.	36.	35.4	34.6	Much motion, with wind.
19		25. 4	36.10	*11.48	*11.41	36.2	36.2	36.2	35.4	Pretty steady.
20		25 45	36.26	11.30*	11.40*	38.	38.	38.	37.2	Not very steady.
21		26. 9	36.11			38.4	38.4	38.4	37.6	Pretty steady.
22		26.25	36. 1	12.15*	12. 5* *12.10	38.6	39.	38.7	38.1	Extremely steady.
23		26.55	35.38	12.58*	12.46*	39.7	40.7	40.3	39.5	Very steady.
25	In sight of *Ras Mahomet*.	27.36					ab'	42.		Very unsteady, much wind.
26		27.47			13.19*					
27		27.58			13.29*					
28		28. 4				42.	42.	42.	41.2	Pretty steady.
29	At anchor off *Tor*.	28.16				42.2	42.2	42.2	41.4	Ditto, a little swell.

1777			Lat.	Long.	Magnetical Variation. Az.	Variation Amp.	South Dip Face E.	Face W.	MD.	C.D.	
			° ′	° ′	°E ′	′E °	°	°	°	°	
Jan. 2	At anchor at 5 fath. on *Coast* of *Africa*		29.12				43.6	44.	43.7	43.2	Fresh wind and good deal of motion.
3			29.35			12.50*	46.	46.	46.	45.3	Ditto.
4	Off *Suez*.		29.51	32.12			45.2	45.6	45.4	44.7	Perfectly steady.
5	At anchor off *Suez*.	N. Lat. obs. 29.58.12	29.58	32.15			45.6	45.6	45.6	45.1	
6	Ditto.	29.58. 1	29.58				45.2	45.2	45.2	44.5	Very steady.
7	Ditto.						45.2	45.2	45.2	44.5	
	Changed the poles, *unmarked end* dips,			–	–	–	43.6	43.3	43.4	44.	A little wind.
	Rechanged the poles, *marked end* dips,			–	–	–	44 4	44.4	44.4	44.	Ditto.
8	At anchor off *Suez*.	29.58.25	29.58				44.5	44.5	44.5	44.	Perfectly steady.
9	Ditto.						45 5	45.7	45.6	45.1	Ditto.
10	Ditto.		29.58								
	Suez	29.58.10	30. 2	32.16							

Astronomical Observations in The Swallow.

	Long. from Greenwich. D. ☾ T.K.	☾	O.	S.	E. D.	
	°W ′	° ′ ″				
Nov. 1	.22	73.31.30	⊙	6	33	*Kalpeny* bearing N.
4		70.26.	⊙	5	15	
6	E .30	67. 5.	⊙	5	13	
7	W .22	65.52.	⊙	4	6	
15	E 1.22	47.11.	⊙	6	20	
16	.50	46.14.	⊙	5	28	

	Long. from Greenwich. D. ☽ T.K.	☾	O.	S.	E. D.	
	°E	° ′ ″				
Nov. 19		44. 8.18	⊙	5	14	At anchor in *Mocha Road*.
20		44.16.	⊙	5	8	20th. Observed an immersion of 1st sat. of Jupiter with my glass, a good deal of wind and ship not very still,
21		44. 6.	*A	3	15	*Per* watch — — 11. 0.30
24	.21	42.28.	*A	5	13	Watch slower than apparent time 1.52.19
29	1. 9	38.47.	*A	5	33	12.52.49
Dec. 2	.35	37.49.	⊙	7	20	Eclipse *per* naut. alm. — 9.56.48
3	.38	37.34.	⊙	5	15	2.56. 1 = 44.0.15 (° ′ ″)

	Long. from Greenwich. D. ☾ T.K.	☾	O.	S.	E. D.	
	°E ′	° ′ ″				
Dec. 6	.29	37 50.	⊙	3	3	
1777 Jan. 4		32.12.	⊙	3	10	Off *Suez*.
		32.11.	⊙	5	10	
5		32.42.	⊙	5	8	At anchor in *Suez Road*.
6		31.47.	⊙	5	14	
		32.21.	⊙	5	24	